



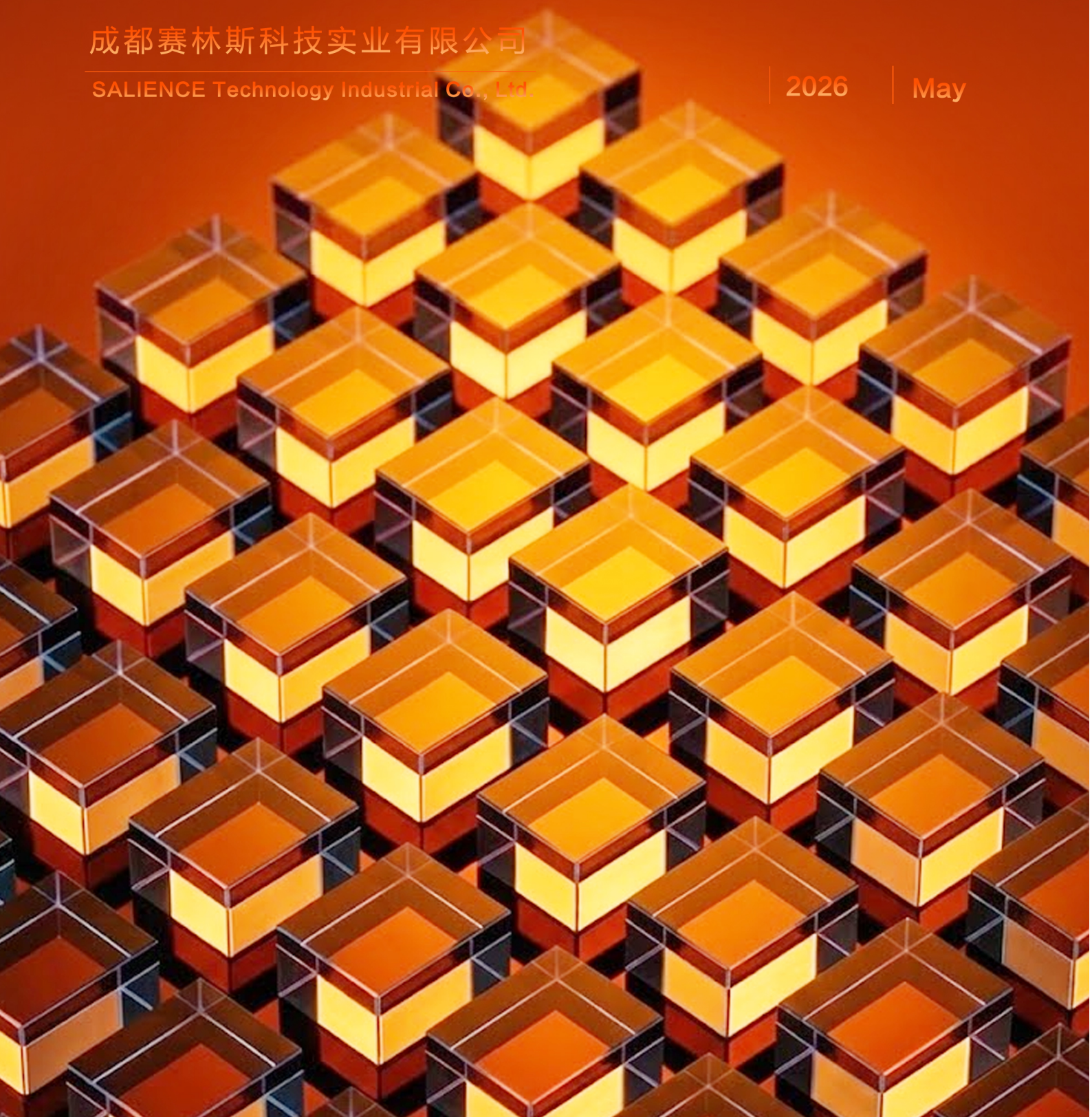
赛林斯光学玻璃数据表

成都赛林斯科技实业有限公司

SALIENCE Technology Industrial Co., Ltd.

2026

May



牌号对照表

序号	SALIENCE	CODE	CDGM	HOYA	SCHOTT	OHARA	HIKARI	NHG
1	H-LaF1S	694492	H-LaF1			(S-LAL58)		H-LaF1
2	H-LaF2S	717479	H-LaF2	LAF3	N-LAF3	S-LAM3	J-LAF3	H-LaF2
3	H-LaF3B	744449	H-LaF3B	LAF2	N-LAF2	S-LAM2	J-LAF2	H-LaF3B
4	H-LaF4S	750350	H-LaF4	E-LAF7	N-LAF7	S-LAM7	J-LAF7	H-LaF4
5	H-LaF5S	754375	H-LaF5					
6	H-LaF6S	757477	H-LaF6LA	NBF2	LAFN24	S-LAM54	J-LAF04	H-LaF6LB
7	H-LaF10S	788475	H-LaF10LA	TAF4	N-LAF21	S-LAH64	J-LASF014	H-LaF10A
8	H-LaF50S	773496	H-LaF50B	TAF1	N-LAF34	S-LAH66	J-LASF016	H-LaF50
9	H-LaF51S	700481	H-LaF51			S-LAM51	J-LAF01	H-LaF51
10	H-LaF52S	786442	H-LaF52	NBFD11	N-LAF33	S-LAH51	J-LASF01	H-LaF52
11	H-LaF53S	743492	H-LaF53	NBF1	N-LAF35	S-LAM60	J-LAF010	H-LaF53
12	H-LaF54S	800422	H-LaF54	NBFD12	N-LAF36	S-LAH52	J-LASF02	H-LaF54
13	H-LaF54A	800422	H-LaF54	NBFD12	N-LAF36	S-LAH52	J-LASF02	H-LaF54
14	H-LaF55S	762401	H-LaF55			S-LAM55	J-LAF05	H-LaF76
15	H-LaF62S	720437	H-LaF62			S-LAM52	J-LAF02	H-LaF62
16	H-LaK1S	660574	H-LaK1	LAC11	LAK11			H-LaK1
17	H-LaK2S	692545	H-LaK2A					H-LaK2H
18	H-LaK3S	747510	H-LaK3					H-LaK3
19	H-LaK4S	640602	H-LaK4L	LACL60	N-LAK21	S-BSM81	J-LAK01	H-LaK4L
20	H-LaK5S	678555	H-LaK5A	LAC12	N-LAK12	S-LAL12	J-LAK12	H-LaK5A
21	H-LaK6S	694534	H-LaK6A	LAC13	N-LAK13	S-LAL13	J-LAK13	H-LaK6
22	H-LaK7B	713539	H-LaK7A	LAC8	N-LAK8	S-LAL8	J-LAK8	H-LaK7
23	H-LaK8S	720503	H-LaK8A	LAC10	N-LAK10	S-LAL10	J-LAK10	H-LaK8A
24	H-LaK10S	651559	H-LaK10	LACL12	N-LAK22	S-LAL54	J-LAK04	H-LaK10
25	H-LaK11S	665546	H-LaK11					
26	H-LaK12S	697562	H-LaK12		LAK24	LAL64		H-LaK12
27	H-LaK50S	652584	H-LaK50A	LAC7	N-LAK7	S-LAL7	J-LAK7	H-LaK50A
28	H-LaK51S	697555	H-LaK51A	LAC14	N-LAK14	S-LAL14	J-LAK14	H-LaK51
29	H-LaK52S	729547	H-LaK52	TAC8	N-LAK34	S-LAL18	J-LAK18	H-LaK52
30	H-LaK53S	755523	H-LaK53B	TAC6	N-LAK33B	S-YGH51	J-LASKH2	H-LaK53B
31	H-LaK54S	734515	H-LaK54	TAC4		S-LAL59	J-LAK09	H-LaK54
32	H-LaK59S	691548	H-LaK59A	LAC9	N-LAK9	S-LAL9	J-LAK9	H-LaK2
33	H-LaK61S	741526	H-LaK61	TAC2		S-LAL61	J-LAK011	H-LaK61
34	H-ZLaF3S	855366	H-ZLaF3	TAFD13	LASF13			H-ZLaF3
35	H-ZLaF2S	803468	H-ZLaF2A		LASF1	LAH62		H-ZLaF2
36	H-ZLaF4LS	911353	H-ZLaF4LA	TAFD35				H-ZLaF72
37	H-ZLaF50S	804466	H-ZLaF50E	TAF3D	N-LASF44	S-LAH65V	J-LASF015	H-ZLaF50
38	H-ZLaF51S	805396	H-ZLaF51	NBFD3		(S-LAH63)	J-LASF013	H-ZLaF51
39	H-ZLaF52S	806410	H-ZLaF52	NBFD13	N-LASF43	S-LAH53		H-ZLaF52
40	H-ZLaF53A	834372	H-ZLaF53B	NBFD10	N-LASF40	S-LAH60	J-LASF010	H-ZLaF53
41	H-ZLaF53B	834372	H-ZLaF53B	NBFD10	N-LASF40	S-LAH60	J-LASF010	H-ZLaF53
42	H-ZLaF55D	835427	H-ZLaF55D	TAFD5G	N-LASF41	S-LAH55V	J-LASF05	H-ZLaF55F
43	H-ZLaF56S	806333	H-ZLaF56B	NBFD15			J-LASFH6	H-ZLaF56

44	H-ZLaF66S	801350	H-ZLaF66		N-LASF45	S-LAM66	J-LAF016	H-ZLaF66A
45	H-ZLaF68A	883409	H-ZLaF68C	TAFD30	N-LASF31A	S-LAH58	J-LASF08A	H-ZLaF68A
46	H-ZLaF68N	883392	H-ZLaF68N					H-ZLaF68L
47	H-ZLaF69A	816466	H-ZLaF69	TAF5		S-LAH59	J-LASF09A	H-ZLaF54
48	H-ZLaF71S	850323	H-ZLaF71			S-LAH71	J-LASF021	H-ZLaF60
49	H-ZLaF75S	904313	H-ZLaF75A	TAFD25	N-LASF46A	S-LAH95	J-LASFH13	H-ZLaF70
50	H-ZLaF75C	904313	H-ZLaF75C	TAFD25	N-LASF46B	S-LAH95		
51	H-ZLaF76S	850301	H-ZLaF76			S-NBH57		H-ZLaF76
52	H-ZLaF78A	901371	H-ZLaF78B	(TAFD37A)				H-ZLaF78
53	H-ZLaF89S	954323	H-ZLaF89L	TAFD45		S-LAH98	J-LASFH21	H-ZLaF77A
54	H-ZLaF90S	001254	H-ZLaF90	TAFD40			J-LASFH17	H-ZLaF80
55	H-ZLaF91S	001292	H-ZLaF91	TAFD55		S-LAH99		
56	H-ZLaF92S	003283	H-ZLaF92			S-LAH79		
57	H-ZF7S	805255	H-ZF7LA	FD60	N-SF6	S-TIH6	J-SF6	H-ZF7L
58	H-ZF13S	785257	H-ZF13	FD110	N-SF11	S-TIH11	J-SF11	H-ZF13
59	H-ZF52S	847238	H-ZF52	FDS90	N-SF57	S-TIH53	J-SF03	
60	H-ZF62S	923209	H-ZF62	E-FDS1	N-SF66			H-ZF62
61	H-ZF71S	808227	H-ZF71	FD225		S-NPH1	J-SFH1	
62	H-ZF72S	923189	H-ZF72A			S-NPH2		H-ZF72B
63	H-ZF88S	946179	H-ZF88	FDS18				H-ZF75A
64	H-ZPK1S	618634	H-ZPK1	PCD4	N-PSK53A	S-PHM52	J-PSK02	H-PK62A
65	H-ZPK2S	603655	H-ZPK2A			S-PHM53	J-PSK03	H-PK63
66	H-QK3LS	487704	H-QK3L	FC5	N-FK5	S-FSL5	J-FK5	H-QK3L
67	D-K9S	516641	D-K9		P-BK7	L-BSL7		D-K9
68	D-PK3S	525704	D-PK3					D-PK70
69	D-ZK2S	583594	D-ZK2	M-BACD12		L-BAL42		
70	D-ZK3S	589612	D-ZK3	M-BACD5N	P-SK58A	L-BAL35		D-ZK3L
71	D-ZK79S	609579	D-ZK79		(P-SK60)			D-ZK50
72	D-ZPK1S	621638	D-ZPK1A	(M-PCD4)				D-PK62
73	D-LaK5S	678549	D-LaK5			L-LAL12		
74	D-LaK6S	694531	D-LaK6	M-LAC130	P-LAK35	L-LAL13		D-LaK6
75	D-LaK52S	731539	D-LaK52	M-TAC80				
76	D-LaK70S	669554	D-LaK70					
77	D-LaF50S	774496	D-LaF50	(M-TAF1)				D-LaF50
78	D-LaF050S	768493	D-LaF050	M-TAF101				D-LaF050
79	D-LaF53S	743493	D-LaF53	M-NBF1		L-LAM60		D-LaF743
80	D-LaF79S	731405	D-LaF79	M-LAF81		L-LAM69		D-LaF731
81	D-ZF10S	689311	D-ZF10	M-FD80	P-SF8	L-TIM28		D-ZF10
82	D-ZLaF52S	810410	D-		P-LASF51			D-ZLaF52N
83	D-ZLaF50S	803455	D-ZLaF50	(M-TAF31)				D-ZLaF50
84	D-ZLaF61S	822427	D-ZLaF61	(M-				
85	D-ZLaF67S	884372	D-ZLaF67	(M-				
86	D-ZLaF81S	809410	D-ZLaF81	(MC-NBFD135	P-LASF50			D-ZLaF52L
87	D-ZLaF85S	846401	D-	(M-		(L-LAH85V)		
88	D-FK61S	497815	D-FK61	M-FCD1				



H-LaF1S

694492

$n_d = 1.69362$

$v_d = 49.19$

$n_F - n_C = 0.01410$

$n_e = 1.69697$

$v_e = 48.91$

$n'_F - n'_C = 0.01425$

折射率 Refractive Index		
	$\lambda(\text{nm})$	
$n_{2325.4}$	2325.4	1.65823
$n_{1970.1}$	1970.1	1.66416
$n_{1529.6}$	1529.6	1.67058
$n_{1060.0}$	1060.0	1.67763
n_t	1014.0	1.67848
n_s	852.1	1.68212
n_p	706.5	1.68702
n_C	656.3	1.68939
$n_{C'}$	643.9	1.69006
$n_{\text{He-Ne}}$	632.8	1.69069
n_D	589.3	1.69350
n_d	587.6	1.69362
n_f	546.1	1.69697
n_F	486.1	1.70349
$n_{F'}$	480.0	1.70431
n_g	435.8	1.71138
n_h	404.7	1.71803
n_i	365.0	1.72961
$n_{313.2}$	313.2	
$n_{302.2}$	302.2	

相对部分色散 Relative Partial Dispersions			
$P_{s,t}$	0.2578	$P'_{s,t}$	0.2551
$P_{C,s}$	0.5160	$P'_{C,s}$	0.5575
$P_{d,C}$	0.2998	$P'_{d,C'}$	0.2497
$P_{e,d}$	0.2379	$P'_{e,d}$	0.2354
$P_{g,F}$	0.5591	$P'_{g,F'}$	0.4957
$P_{i,h}$	0.8214	$P'_{i,h}$	0.8128

内透射率 Internal Transmittance		
$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.897	0.805
2200	0.971	0.942
2000	0.989	0.979
1800	0.996	0.991
1600	0.997	0.994
1400	0.998	0.997
1200	0.999	0.999
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.997	0.994
700	0.997	0.994
650	0.997	0.995
600	0.998	0.997
550	0.998	0.996
500	0.997	0.995
480	0.996	0.992
460	0.994	0.989
440	0.991	0.983
420	0.988	0.976
400	0.978	0.957
390	0.968	0.937
380	0.951	0.904
370	0.914	0.835
360	0.834	0.696
350	0.658	0.433
340	0.330	0.109
330		
320		
310		
300		
290		
280		

异常色散 Abnormal Dispersions			
$\Delta P_{C,t}$	-0.0042	$\Delta P_{C,s}$	-0.0020
$\Delta P_{F,e}$	-0.0004	$\Delta P_{g,F}$	-0.0028

热性质 Thermal Properties	
$T_g(^{\circ}\text{C})$	640
$T_s(^{\circ}\text{C})$	676
$T_{1014.5(^{\circ}\text{C})}$	595
$T_{1013(^{\circ}\text{C})}$	627
$T_{107.6(^{\circ}\text{C})}$	737
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	71
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	85
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

色散公式常数 Constants of Dispersion Formula	
K1	1.16155300E+000
L1	1.06692955E+002
K2	1.49000600E+000
L2	7.36542465E-003
K3	3.17836404E-001
L3	3.13945301E-002

化学性质 Chemical Properties	
Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt	
D0	1.00E-06
D1	2.31E-08
D2	-1.60E-10
E0	5.94E-07
E1	-4.95E-10
$\lambda_{TK}(\mu\text{m})$	0.215

机械性质 Mechanical Properties	
$H_k(10^7\text{Pa})$	613
FA	158
$E(10^7\text{Pa})$	10138
$G(10^7\text{Pa})$	3933
μ	0.289
$B(10^{-12}/\text{Pa})$	1.82

折射率温度系数 Temperature Coefficients of Refractive Index						
温度范围($^{\circ}\text{C}$) Rang of Temperature	dn/dt relative ($10^{-6}/^{\circ}\text{C}$)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	1.5	1.8	1.9	2.4	2.7	3.1
-20~0	1.7	2.3	2.5	3.1	3.5	4.2
0~20	2.4	2.9	3.2	3.3	3.9	4.4
20~40	2.5	3.1	3.4	3.4	4.0	4.5
40~60	2.6	3.1	3.5	3.7	4.1	4.6
60~80	2.5	3.1	3.5	3.6	4.2	4.7
80~100						
100~120						
120~140						

着色度 Color Code	
λ_{80}/λ_5	385/340
λ_{70}/λ_5	

其他性质 Other Properties	
ρ	3.85

退火增值系数 ECFA.	
β	130

备注 Remarks	



H-LaF2S

717479

$n_d = 1.71700$

$v_d = 47.89$

$n_F - n_C = 0.01497$

$n_e = 1.72056$

$v_e = 47.60$

$n'_F - n'_C = 0.01514$

折射率 Refractive Index		
	$\lambda(\text{nm})$	
$n_{2325.4}$	2325.4	1.68174
$n_{1970.1}$	1970.1	1.68726
$n_{1529.6}$	1529.6	1.69333
$n_{1060.0}$	1060.0	1.70028
n_t	1014.0	1.70114
n_s	852.1	1.70488
n_p	706.5	1.71002
n_C	656.3	1.71252
$n_{C'}$	643.9	1.71323
$n_{\text{He-Ne}}$	632.8	1.71389
n_D	589.3	1.71687
n_d	587.6	1.71700
n_f	546.1	1.72056
n_F	486.1	1.72749
$n_{F'}$	480.0	1.72837
n_g	435.8	1.73589
n_h	404.7	1.74298
n_i	365.0	1.75532
$n_{313.2}$	313.2	
$n_{302.2}$	302.2	

色散公式常数 Constants of Dispersion Formula	
K1	1.62865100E+000
L1	8.64219293E-003
K2	1.11837100E+000
L2	1.09900597E+002
K3	2.53252327E-001
L3	3.42503153E-002

折射率温度系数常数 Constants of dn/dt	
D0	-4.12E-06
D1	2.75E-08
D2	-1.05E-10
E0	8.05E-07
E1	-8.24E-10
$\lambda_{TK}(\mu\text{m})$	0.107

折射率温度系数 Temperature Coefficients of Refractive Index						
温度范围(°C) Rang of Temperature	dn/dt relative ($10^{-6}/^{\circ}\text{C}$)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	-1.0	-0.6	-0.3	-0.1	0.5	0.8
-20~0	-1.0	-0.6	-0.3	0.0	0.5	1.0
0~20	-0.6	0.1	0.6	0.7	1.4	1.8
20~40	-0.2	0.7	1.0	1.2	1.5	2.0
40~60	0.2	0.8	1.0	1.1	1.6	2.2
60~80	0.3	0.9	1.1	1.2	1.7	2.4
80~100						
100~120						
120~140						

相对部分色散 Relative Partial Dispersions			
$P_{s,t}$	0.2500	$P'_{s,t}$	0.2473
$P_{C,s}$	0.5103	$P'_{C,s}$	0.5514
$P_{d,C}$	0.2991	$P'_{d,C'}$	0.2491
$P_{e,d}$	0.2379	$P'_{e,d}$	0.2353
$P_{g,F}$	0.5606	$P'_{g,F'}$	0.4969
$P_{i,h}$	0.8244	$P'_{i,h}$	0.8154

异常色散 Abnormal Dispersions			
$\Delta P_{C,t}$	-0.0116	$\Delta P_{C,s}$	-0.0047
$\Delta P_{F,e}$	-0.0005	$\Delta P_{g,F}$	-0.0035

热性质 Thermal Properties	
$T_g(^{\circ}\text{C})$	666
$T_s(^{\circ}\text{C})$	704
$T_{1014.5(^{\circ}\text{C})}$	612
$T_{1013(^{\circ}\text{C})}$	650
$T_{107.6(^{\circ}\text{C})}$	772
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	79
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	91
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

化学性质 Chemical Properties	
	Grade
DW	1
DA	6
CR	1
RC(S)	1
RA(S)	3

机械性质 Mechanical Properties	
$H_k(10^7\text{Pa})$	561
FA	205
$E(10^7\text{Pa})$	9061
$G(10^7\text{Pa})$	3524
μ	0.286
$B(10^{-12}/\text{Pa})$	1.47

内透射率 Internal Transmittance		
$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.892	0.795
2200	0.954	0.909
2000	0.981	0.962
1800	0.991	0.981
1600	0.997	0.993
1400	0.997	0.995
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.998
550	0.999	0.998
500	0.998	0.997
480	0.997	0.995
460	0.997	0.994
440	0.995	0.991
420	0.993	0.986
400	0.988	0.976
390	0.979	0.958
380	0.963	0.928
370	0.928	0.862
360	0.851	0.725
350	0.688	0.474
340	0.383	0.147
330		
320		
310		
300		
290		
280		

着色度 Color Code	
λ_{80}/λ_5	380/340
λ_{70}/λ_5	

其他性质 Other Properties	
ρ	4.22

退火增值系数 ECFA.	
β	120

备注 Remarks	



H-LaF3B

744449

$n_d = 1.74400$

$v_d = 44.90$

$n_F - n_C = 0.01657$

$n_e = 1.74794$

$v_e = 44.62$

$n'_F - n'_C = 0.01676$

折射率 Refractive Index		
	$\lambda(\text{nm})$	
$n_{2325.4}$	2325.4	1.70772
$n_{1970.1}$	1970.1	1.71295
$n_{1529.6}$	1529.6	1.71881
$n_{1060.0}$	1060.0	1.72585
n_t	1014.0	1.72676
n_s	852.1	1.73075
n_p	706.5	1.73632
n_C	656.3	1.73907
$n_{C'}$	643.9	1.73985
$n_{\text{He-Ne}}$	632.8	1.74057
n_D	589.3	1.74385
n_d	587.6	1.74400
n_e	546.1	1.74794
n_F	486.1	1.75564
$n_{F'}$	480.0	1.75661
n_g	435.8	1.76500
n_h	404.7	1.77294
n_i	365.0	1.78683
$n_{313.2}$	313.2	
$n_{302.2}$	302.2	

色散公式常数 Constants of Dispersion Formula	
K1	1.66487000E+000
L1	8.95646680E-003
K2	3.01622480E-001
L2	3.50299701E-002
K3	1.19738900E+000
L3	1.23334435E+002

折射率温度系数常数 Constants of dn/dt	
D0	-3.14E-06
D1	1.29E-08
D2	-3.08E-11
E0	6.91E-07
E1	5.97E-10
$\lambda_{TK}(\mu\text{m})$	0.223

折射率温度系数 Temperature Coefficients of Refractive Index						
温度范围(°C) Rang of Temperature	dn/dt relative ($10^{-6}/^\circ\text{C}$)					
	t	C'	d	e	F'	g
-60~-40	-0.1	0.5	0.7	0.9	1.5	2.0
-40~-20	-0.1	0.5	0.7	0.9	1.5	2.2
-20~0	0.0	0.8	1.1	1.3	2.0	2.6
0~20	0.2	0.9	1.2	1.7	2.1	2.7
20~40	0.2	0.9	1.3	1.6	2.2	2.7
40~60	0.3	1.1	1.3	1.6	2.5	3.1
60~80	0.4	1.1	1.4	1.7	2.5	3.2
80~100	0.5	1.0	1.4	1.7	2.5	3.2
100~120	0.6	1.2	1.6	1.8	2.5	3.6
120~140	0.8	1.6	1.9	2.3	3.0	3.6

相对部分色散 Relative Partial Dispersions			
$P_{s,t}$	0.2406	$P'_{s,t}$	0.2378
$P_{C,s}$	0.5022	$P'_{C,s}$	0.5428
$P_{d,C}$	0.2976	$P'_{d,C'}$	0.2479
$P_{e,d}$	0.2377	$P'_{e,d}$	0.2350
$P_{g,F}$	0.5651	$P'_{g,F'}$	0.5007
$P_{i,h}$	0.8383	$P'_{i,h}$	0.8286

异常色散 Abnormal Dispersions			
$\Delta P_{C,t}$	-0.0150	$\Delta P_{C,s}$	-0.0057
$\Delta P_{F,e}$	-0.0005	$\Delta P_{g,F}$	-0.0041

热性质 Thermal Properties	
$T_g(^\circ\text{C})$	618
$T_s(^\circ\text{C})$	680
$T_{1014.5}(^\circ\text{C})$	582
$T_{1013}(^\circ\text{C})$	616
$T_{107.6}(^\circ\text{C})$	751
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	80
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	97
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

化学性质 Chemical Properties	
	Grade
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

机械性质 Mechanical Properties	
$H_k(10^7\text{Pa})$	568
FA	182
$E(10^7\text{Pa})$	9781
$G(10^7\text{Pa})$	3780
μ	0.294
$B(10^{-12}/\text{Pa})$	1.51

内透射率 Internal Transmittance		
$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.902	0.814
2200	0.957	0.915
2000	0.960	0.921
1800	0.990	0.980
1600	0.997	0.994
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.996
700	0.998	0.997
650	0.998	0.997
600	0.999	0.998
550	0.999	0.999
500	0.998	0.997
480	0.998	0.997
460	0.997	0.995
440	0.996	0.992
420	0.994	0.988
400	0.986	0.973
390	0.978	0.957
380	0.961	0.923
370	0.923	0.852
360	0.843	0.710
350	0.671	0.450
340	0.352	0.124
330		
320		
310		
300		
290		
280		

着色度 Color Code	
λ_{80}/λ_5	380/335
λ_{70}/λ_5	

其他性质 Other Properties	
ρ	4.39

退火增值系数 ECFA.	
β	105

备注 Remarks	



H-LaF4S

750350

$n_d = 1.74950$

$v_d = 34.99$

$n_F - n_C = 0.02142$

$n_e = 1.75457$

$v_e = 34.72$

$n_F - n_C = 0.02173$

折射率 Refractive Index

	$\lambda(\text{nm})$	
$n_{2325.4}$	2325.4	1.70616
$n_{1970.1}$	1970.1	1.71203
$n_{1529.6}$	1529.6	1.71870
$n_{1060.0}$	1060.0	1.72695
n_t	1014.0	1.72803
n	852.1	1.73288
n	706.5	1.73979
n_C	656.3	1.74324
$n_{C'}$	643.9	1.74422
$n_{\text{He-Ne}}$	632.8	1.74514
n_D	589.3	1.74931
n_d	587.6	1.74950
n	546.1	1.75457
n_F	486.1	1.76466
$n_{F'}$	480.0	1.76595
n_g	435.8	1.77728
n_h	404.7	1.78833
n_i	365.0	1.80864
$n_{313.2}$	313.2	
$n_{302.2}$	302.2	

相对部分色散 Relative Partial Dispersions

$P_{s,t}$	0.2262	$P'_{s,t}$	0.2230
$P_{C,s}$	0.4835	$P'_{C,s}$	0.5217
$P_{d,C}$	0.2925	$P'_{d,C'}$	0.2432
$P_{e,d}$	0.2367	$P'_{e,d}$	0.2333
$P_{g,F}$	0.5892	$P'_{g,F'}$	0.5215
$P_{i,h}$	0.9479	$P'_{i,h}$	0.9344

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0014	$\Delta P_{C,s}$	-0.0010
$\Delta P_{F,e}$	0.0004	$\Delta P_{g,F}$	0.0031

热性质 Thermal Properties

$T_g(^{\circ}\text{C})$	580
$T_s(^{\circ}\text{C})$	630
$T_{1014.5(^{\circ}\text{C})}$	535
$T_{1013(^{\circ}\text{C})}$	568
$T_{107.6(^{\circ}\text{C})}$	704
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	83
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	95
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.917	0.841
2200	0.962	0.926
2000	0.985	0.971
1800	0.992	0.984
1600	0.997	0.995
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.997
650	0.998	0.996
600	0.998	0.996
550	0.997	0.994
500	0.994	0.988
480	0.990	0.981
460	0.987	0.975
440	0.983	0.967
420	0.974	0.948
400	0.949	0.900
390	0.917	0.840
380	0.851	0.725
370	0.691	0.478
360	0.371	0.138
350		
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion Formula

K1	2.10645318E-001
L1	5.42759299E-002
K2	1.75547300E+000
L2	1.12370783E-002
K3	1.28979000E+000
L3	1.19852066E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	2
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	6.53E-07
D1	1.81E-08
D2	-1.59E-10
E0	9.02E-07
E1	8.16E-10
$\lambda\tau(\mu\text{m})$	0.246

机械性质 Mechanical Properties

Hk(107Pa)	545
FA	178
E(107Pa)	9105
G(107Pa)	3563
μ	0.278
B(10 ⁻¹² /Pa)	2.42

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	1.3	2.0	2.7	2.9	3.4	4.4
-20~0	2.0	3.1	3.3	3.5	4.7	5.7
0~20	2.4	3.5	3.6	4.3	5.1	6.3
20~40	2.5	3.4	3.9	4.2	5.4	6.2
40~60	2.5	3.5	4.0	4.5	5.6	6.6
60~80	2.8	3.8	4.4	4.6	5.6	6.9
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	405/355
λ_{70}/λ_5	

其他性质 Other Properties

ρ	3.92
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退火增值系数 ECFA.

β	170
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备注 Remarks

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H-LaF5S

754375

nd=

vd= 37.49

nF-nc= 0.02010

ne=

ve= 37.23

nF-nc'= 0.02037

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.70936
n _{1970.1}	1970.1	1.71602
n _{1529.6}	1529.6	1.72339
n _{1060.0}	1060.0	1.73198
n _t	1014.0	1.73307
n _s	852.1	1.73783
n _r	706.5	1.74447
nc	656.3	1.74775
nc'	643.9	1.74868
n _{He-Ne}	632.8	1.74955
n _D	589.3	1.75349
nd	587.6	1.75367
n _e	546.1	1.75843
n _F	486.1	1.76785
n _{F'}	480.0	1.76905
n _g	435.8	1.77955
n _h	404.7	1.78972
n _i	365.0	1.80823
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2369	P' _{s,t}	0.2338
P _{C,s}	0.4936	P' _{C,s}	0.5327
P _{d,C}	0.2945	P' _{d,C'}	0.2449
P _{e,d}	0.2369	P' _{e,d}	0.2338
P _{g,F}	0.5819	P' _{g,F'}	0.5153
P _{i,h}	0.9207	P' _{i,h}	0.9085

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0076	$\Delta P_{C,s}$	0.0032
$\Delta P_{F,e}$	-0.0006	$\Delta P_{g,F}$	0.0001

热性质 Thermal Properties

T _g (°C)	647
T _s (°C)	687
T _{1014.5} (°C)	604
T ₁₀₁₃ (°C)	640
T _{107.6} (°C)	754
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	74
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	84
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.906	0.820
2200	0.966	0.934
2000	0.989	0.979
1800	0.997	0.994
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.997
650	0.998	0.996
600	0.997	0.995
550	0.996	0.993
500	0.991	0.982
480	0.987	0.974
460	0.983	0.966
440	0.978	0.956
420	0.968	0.937
400	0.946	0.894
390	0.922	0.850
380	0.880	0.770
370	0.770	0.600
360	0.520	0.270
350	0.140	0.020
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.26562500E+000
L1	1.02654800E+002
K2	1.81324800E+000
L2	1.11614875E-002
K3	1.73525795E-001
L3	5.41388802E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	5
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	-2.04E-07
D1	2.80E-08
D2	-1.11E-10
E0	6.56E-07
E1	-8.41E-10
$\lambda_{TK}(\mu\text{m})$	0.272

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	576
FA	135
E(10 ⁷ Pa)	10508
G(10 ⁷ Pa)	4114
μ	0.277
B(10 ⁻¹² /Pa)	1.95

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	0.4	1.2	1.9	2.1	2.4	3.7
-20~0	1.6	1.9	2.3	2.8	3.8	4.7
0~20	1.6	2.1	2.6	3.0	3.9	4.9
20~40	2.1	2.7	3.1	3.4	4.2	5.0
40~60	2.3	3.2	3.4	3.7	4.5	5.2
60~80	2.4	3.2	3.5	3.8	4.7	5.4
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	410/350
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.71
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退火增值系数 ECFA.

β	100
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备注 Remarks

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H-LaF6S

757477

nd=

vd= 47.71

nF-nc= 0.01587

ne=

ve= 47.47

nF-nc'= 0.01603

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.71377
n _{1970.1}	1970.1	1.72160
n _{1529.6}	1529.6	1.72991
n _{1060.0}	1060.0	1.73863
n _t	1014.0	1.73965
n _s	852.1	1.74391
n _r	706.5	1.74953
nc	656.3	1.75222
nc'	643.9	1.75298
n _{He-Ne}	632.8	1.75369
n _D	589.3	1.75686
n _d	587.6	1.75700
n _e	546.1	1.76078
n _F	486.1	1.76809
n _{F'}	480.0	1.76901
n _g	435.8	1.77691
n _h	404.7	1.78432
n _i	365.0	1.79717
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2684	P' _{s,t}	0.2657
P _{C,s}	0.5243	P' _{C,s}	0.5662
P _{d,C}	0.3010	P' _{d,C'}	0.2508
P _{e,d}	0.2380	P' _{e,d}	0.2356
P _{g,F}	0.5557	P' _{g,F'}	0.4928
P _{i,h}	0.8097	P' _{i,h}	0.8015

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0216	$\Delta P_{C,s}$	0.0097
$\Delta P_{F,e}$	-0.0026	$\Delta P_{g,F}$	-0.0088

热性质 Thermal Properties

T _g (°C)	646
T _s (°C)	680
T _{1014.5} (°C)	603
T ₁₀₁₃ (°C)	632
T _{107.6} (°C)	731
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	59
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	69
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.810	0.650
2200	0.950	0.902
2000	0.982	0.965
1800	0.996	0.992
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.997
650	0.998	0.997
600	0.998	0.997
550	0.998	0.997
500	0.997	0.994
480	0.996	0.992
460	0.994	0.989
440	0.992	0.984
420	0.988	0.976
400	0.979	0.958
390	0.969	0.938
380	0.952	0.906
370	0.924	0.853
360	0.880	0.770
350	0.810	0.650
340	0.690	0.480
330	0.510	0.260
320	0.260	0.070
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.12023500E+000
L1	3.35766724E-003
K2	8.97573590E-001
L2	2.27710735E-002
K3	1.36654900E+000
L3	9.20376280E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	4.32E-06
D1	1.59E-08
D2	-1.31E-11
E0	6.18E-07
E1	3.24E-10
$\lambda_{TK}(\mu\text{m})$	0.187

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	729
FA	86
E(10 ⁷ Pa)	11806
G(10 ⁷ Pa)	4570
μ	0.291
B(10 ⁻¹² /Pa)	1.84

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	4.2	4.7	5.0	5.3	5.7	6.2
-40~-20	4.3	4.8	5.0	5.4	5.8	6.3
-20~0	4.3	4.9	5.2	5.4	6.0	6.5
0~20	4.4	5.0	5.3	5.5	6.1	6.6
20~40	4.5	5.2	5.6	5.7	6.3	6.8
40~60	4.6	5.5	5.8	6.0	6.5	7.0
60~80	4.9	5.7	5.8	6.2	6.7	7.3
80~100	5.3	5.8	6.0	6.3	6.9	7.6
100~120	5.4	6.0	6.3	6.6	7.2	7.8
120~140	5.6	6.2	6.5	6.8	7.4	8.3

着色度 Color Code

λ_{80}/λ_5	390/320
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.06
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退火增值系数 ECFA.

β	150
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备注 Remarks

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H-LaF10S

788475

nd=

vd= 47.49

nF-nc= 0.01659

ne=

ve= 47.25

nF-nc'= 0.01676

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.74470
n _{1970.1}	1970.1	1.75227
n _{1529.6}	1529.6	1.76032
n _{1060.0}	1060.0	1.76897
n _t	1014.0	1.76999
n _s	852.1	1.77436
n _r	706.5	1.78019
nc	656.3	1.78301
nc'	643.9	1.78380
n _{He-Ne}	632.8	1.78454
n _D	589.3	1.78785
nd	587.6	1.78800
n _e	546.1	1.79195
n _F	486.1	1.79960
n _{F'}	480.0	1.80056
n _g	435.8	1.80881
n _h	404.7	1.81655
n _i	365.0	1.82997
n _{313.2}	313.2	1.85834
n _{302.2}	302.2	1.86710

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2630	P' _{s,t}	0.2603
P _{C,s}	0.5214	P' _{C,s}	0.5634
P _{d,C}	0.3009	P' _{d,C'}	0.2507
P _{e,d}	0.2381	P' _{e,d}	0.2357
P _{g,F}	0.5551	P' _{g,F'}	0.4924
P _{i,h}	0.8088	P' _{i,h}	0.8007

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0143	$\Delta P_{C,s}$	0.0074
$\Delta P_{F,e}$	-0.0027	$\Delta P_{g,F}$	-0.0097

热性质 Thermal Properties

T _g (°C)	676
T _s (°C)	702
T _{1014.5} (°C)	636
T ₁₀₁₃ (°C)	661
T _{107.6} (°C)	756
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	67
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	77
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.823	0.677
2200	0.948	0.900
2000	0.981	0.963
1800	0.994	0.987
1600	0.998	0.995
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.997
600	0.998	0.996
550	0.997	0.995
500	0.997	0.994
480	0.996	0.992
460	0.995	0.991
440	0.992	0.985
420	0.990	0.981
400	0.984	0.969
390	0.979	0.958
380	0.970	0.940
370	0.953	0.909
360	0.926	0.857
350	0.879	0.773
340	0.806	0.649
330	0.680	0.462
320	0.449	0.202
310	0.167	0.028
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.93178400E+000
L1	9.97340865E-003
K2	1.89897284E-001
L2	3.68891060E-002
K3	1.09736500E+000
L3	7.72777480E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	1.87E-06
D1	1.68E-08
D2	-3.95E-11
E0	5.95E-07
E1	4.28E-10
$\lambda_{TK}(\mu m)$	0.194

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	652
FA	100
E(10 ⁷ Pa)	12398
G(10 ⁷ Pa)	4787
μ	0.295
B(10 ⁻¹² /Pa)	1.39

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.5	3.0	3.3	3.6	4.2	4.8
-40~-20	2.6	3.1	3.6	3.6	4.3	4.8
-20~0	2.7	3.4	3.7	3.7	4.3	4.9
0~20	3.1	3.8	3.9	4.2	4.8	5.1
20~40	3.3	4.0	4.0	4.5	4.8	5.4
40~60	3.5	4.2	4.3	4.6	5.2	5.6
60~80	3.5	4.3	4.4	4.8	5.2	5.9
80~100	3.5	4.3	4.5	4.9	5.4	6.3
100~120	3.7	4.4	4.8	4.8	5.7	6.3
120~140	3.8	4.4	4.9	5.1	6.1	6.4

着色度 Color Code

λ_{80}/λ_5	380/315
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	4.32
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退火增值系数 ECFA.

β	150
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备注 Remarks

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H-LaF50S

773496

nd=

vd= 49.60

nF-nc= 0.01558

ne=

ve= 49.36

nF-nc'= 0.01573

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.73042
n _{1970.1}	1970.1	1.73796
n _{1529.6}	1529.6	1.74596
n _{1060.0}	1060.0	1.75443
n _t	1014.0	1.75542
n _s	852.1	1.75960
n _r	706.5	1.76514
nc	656.3	1.76780
nc'	643.9	1.76854
n _{He-Ne}	632.8	1.76924
n _D	589.3	1.77236
nd	587.6	1.77250
n _e	546.1	1.77621
n _F	486.1	1.78337
n _{F'}	480.0	1.78427
n _g	435.8	1.79197
n _h	404.7	1.79916
n _i	365.0	1.81154
n _{313.2}	313.2	1.83730
n _{302.2}	302.2	1.84510

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2685	P' _{s,t}	0.2659
P _{C,s}	0.5264	P' _{C,s}	0.5687
P _{d,C}	0.3019	P' _{d,C'}	0.2516
P _{e,d}	0.2381	P' _{e,d}	0.2359
P _{g,F}	0.5517	P' _{g,F'}	0.4893
P _{i,h}	0.7953	P' _{i,h}	0.7877

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0149	$\Delta P_{C,s}$	0.0074
$\Delta P_{F,e}$	-0.0026	$\Delta P_{g,F}$	-0.0096

热性质 Thermal Properties

T _g (°C)	676
T _s (°C)	703
T _{1014.5} (°C)	630
T ₁₀₁₃ (°C)	660
T _{107.6} (°C)	754
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	60
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	75
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.814	0.662
2200	0.947	0.896
2000	0.981	0.962
1800	0.993	0.987
1600	0.997	0.995
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.997	0.994
700	0.997	0.994
650	0.997	0.994
600	0.998	0.996
550	0.998	0.996
500	0.998	0.996
480	0.997	0.994
460	0.996	0.993
440	0.993	0.987
420	0.991	0.982
400	0.986	0.973
390	0.980	0.961
380	0.971	0.943
370	0.954	0.911
360	0.926	0.857
350	0.879	0.773
340	0.809	0.654
330	0.706	0.499
320	0.557	0.310
310	0.339	0.115
300	0.122	0.015
290		
280		

色散公式常数 Constants of Dispersion

K1	1.17461300E+000
L1	8.26267620E+001
K2	1.65889800E+000
L2	8.05128179E-003
K3	4.13174063E-001
L3	2.69612670E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	2.17E-06
D1	1.36E-08
D2	-3.28E-11
E0	5.95E-07
E1	8.86E-10
$\lambda_{TK}(\mu m)$	0.161

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	723
FA	92
E(10 ⁷ Pa)	12370
G(10 ⁷ Pa)	4793
μ	0.29
B(10 ⁻¹² /Pa)	1.39

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.7	3.2	3.5	3.6	4.2	4.4
-40~-20	3.0	3.4	3.7	3.9	4.4	4.6
-20~0	3.4	3.9	4.0	4.2	4.6	5.2
0~20	3.2	3.7	3.8	4.1	4.5	5.1
20~40	3.5	4.0	4.3	4.3	5.0	5.6
40~60	3.5	4.2	4.4	4.6	5.2	5.6
60~80	3.2	4.1	4.1	4.7	5.0	5.6
80~100	3.4	4.3	4.5	4.9	5.4	5.9
100~120	3.7	4.5	4.7	5.1	5.7	6.2
120~140	3.9	4.7	4.9	5.1	5.8	6.3

着色度 Color Code

λ_{80}/λ_5	375/305
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	4.23
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退火增值系数 ECFA.

β	150
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备注 Remarks

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H-LaF51S

700481

nd=

vd= 48.08

nF-nc= 0.01456

ne=

ve= 47.80

nF-nc'= 0.01472

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.66348
n _{1970.1}	1970.1	1.66962
n _{1529.6}	1529.6	1.67626
n _{1060.0}	1060.0	1.68353
n _t	1014.0	1.68441
n _s	852.1	1.68815
n _r	706.5	1.69320
nc	656.3	1.69564
nc'	643.9	1.69633
n _{He-Ne}	632.8	1.69698
n _D	589.3	1.69987
nd	587.6	1.70000
n _e	546.1	1.70346
n _F	486.1	1.71020
n _{F'}	480.0	1.71105
n _g	435.8	1.71837
n _h	404.7	1.72529
n _i	365.0	1.73739
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2570	P' _{s,t}	0.2542
P _{C,s}	0.5146	P' _{C,s}	0.5558
P _{d,C}	0.2993	P' _{d,C}	0.2493
P _{e,d}	0.2378	P' _{e,d}	0.2352
P _{g,F}	0.5614	P' _{g,F}	0.4977
P _{i,h}	0.8307	P' _{i,h}	0.8217

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0012	$\Delta P_{C,s}$	-0.0008
$\Delta P_{F,e}$	-0.0005	$\Delta P_{g,F}$	-0.0024

热性质 Thermal Properties

T _g (°C)	649
T _s (°C)	686
T _{1014.5} (°C)	601
T ₁₀₁₃ (°C)	629
T _{107.6} (°C)	738
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	83
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	94
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.861	0.742
2200	0.944	0.891
2000	0.979	0.958
1800	0.989	0.979
1600	0.996	0.992
1400	0.997	0.995
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.997
650	0.998	0.996
600	0.997	0.995
550	0.997	0.995
500	0.997	0.994
480	0.996	0.992
460	0.994	0.989
440	0.993	0.987
420	0.991	0.982
400	0.983	0.967
390	0.973	0.947
380	0.954	0.910
370	0.909	0.826
360	0.807	0.652
350	0.589	0.347
340	0.239	0.057
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.16091600E+000
L1	1.02913643E+002
K2	1.53441600E+000
L2	7.59735703E-003
K3	2.93141693E-001
L3	3.38071734E-002

化学性质 Chemical Properties

	Grade
DW	2
DA	3
CR	2
RC(S)	1
RA(S)	4

折射率温度系数常数 Constants of dn/dt

D0	-2.02E-06
D1	1.89E-08
D2	-1.30E-10
E0	4.46E-07
E1	1.77E-10
$\lambda_{TK}(\mu m)$	0.281

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	576
FA	175
E(10 ⁷ Pa)	9644
G(10 ⁷ Pa)	3745
μ	0.288
B(10 ⁻¹² /Pa)	1.58

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	0.0	0.3	0.5	0.8	0.9	1.5
-20~0	-0.1	0.8	1.2	1.3	1.4	2.3
0~20	0.5	1.2	1.4	1.6	2.0	2.6
20~40	0.8	1.2	1.4	1.5	2.3	2.8
40~60	1.0	1.4	1.4	1.6	2.4	2.9
60~80	1.1	1.3	1.4	1.7	2.5	3.0
80~100						
100~120						
120~140						

着色度 Color Code

$\lambda_{80/\lambda 5}$	380/340
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(g/cm^3)$	3.82
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退火增值系数 ECFA.

β	140
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备注 Remarks

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H-LaF52S

786442

nd=

vd= 44.19

nF-nc= 0.01779

ne=

ve= 43.94

nF-nc'= 0.01798

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.74296
n _{1970.1}	1970.1	1.74995
n _{1529.6}	1529.6	1.75752
n _{1060.0}	1060.0	1.76598
n _t	1014.0	1.76702
n _s	852.1	1.77150
n _r	706.5	1.77761
nc	656.3	1.78058
nc'	643.9	1.78142
n _{He-Ne}	632.8	1.78221
n _D	589.3	1.78574
nd	587.6	1.78590
n _e	546.1	1.79013
n _F	486.1	1.79837
n _{F'}	480.0	1.79941
n _g	435.8	1.80837
n _h	404.7	1.81684
n _i	365.0	1.83166
n _{313.2}	313.2	1.86365
n _{302.2}	302.2	1.87373

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2518	P' _{s,t}	0.2490
P _{C,s}	0.5109	P' _{C,s}	0.5519
P _{d,C}	0.2989	P' _{d,C'}	0.2489
P _{e,d}	0.2378	P' _{e,d}	0.2352
P _{g,F}	0.5622	P' _{g,F'}	0.4983
P _{i,h}	0.8332	P' _{i,h}	0.8240

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0082	$\Delta P_{C,s}$	0.0047
$\Delta P_{F,e}$	-0.0022	$\Delta P_{g,F}$	-0.0083

热性质 Thermal Properties

T _g (°C)	605
T _s (°C)	633
T _{1014.5} (°C)	558
T ₁₀₁₃ (°C)	584
T _{107.6} (°C)	686
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	56
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	66
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.853	0.728
2200	0.962	0.925
2000	0.985	0.970
1800	0.995	0.990
1600	0.998	0.997
1400	0.999	0.997
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.996
700	0.998	0.996
650	0.998	0.996
600	0.997	0.995
550	0.997	0.994
500	0.996	0.993
480	0.995	0.991
460	0.993	0.987
440	0.989	0.979
420	0.985	0.971
400	0.977	0.954
390	0.966	0.934
380	0.951	0.905
370	0.920	0.847
360	0.871	0.759
350	0.793	0.629
340	0.676	0.457
330	0.504	0.254
320	0.265	0.070
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	2.25893766E-001
L1	3.91551778E-002
K2	1.88248000E+000
L2	1.00951893E-002
K3	1.11307000E+000
L3	8.50042880E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	2
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	7.32E-06
D1	1.67E-08
D2	-2.76E-11
E0	7.23E-07
E1	7.76E-10
$\lambda_{TK}(\mu\text{m})$	0.219

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	668
FA	94
E(10 ⁷ Pa)	11290
G(10 ⁷ Pa)	4350
μ	0.297
B(10 ⁻¹² /Pa)	2.13

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	5.9	6.7	7.0	7.3	8.1	8.6
-40~-20	6.1	6.7	7.1	7.3	8.1	8.8
-20~0	6.3	6.9	7.3	7.8	8.3	9.1
0~20	6.4	7.1	7.5	7.8	8.4	9.3
20~40	6.4	7.5	7.7	7.9	9.0	9.6
40~60	6.5	7.6	8.0	8.4	9.2	10.0
60~80	7.1	8.1	8.3	8.7	9.5	10.3
80~100	7.3	8.3	8.4	8.9	9.6	10.7
100~120	7.4	8.3	8.7	9.0	9.9	10.9
120~140	7.4	8.4	8.7	9.0	9.9	10.9

着色度 Color Code

λ_{80}/λ_5	385/320
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.37
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退火增值系数 ECFA.

β	120
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备注 Remarks

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H-LaF53S

743492

nd=

vd= 49.22

nF-nc= 0.01510

ne=

ve= 48.98

nF-nc'= 0.01525

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.70290
n _{1970.1}	1970.1	1.71009
n _{1529.6}	1529.6	1.71773
n _{1060.0}	1060.0	1.72584
n _t	1014.0	1.72680
n _s	852.1	1.73082
n _r	706.5	1.73618
nc	656.3	1.73875
nc'	643.9	1.73947
n _{He-Ne}	632.8	1.74014
n _D	589.3	1.74317
nd	587.6	1.74330
n _e	546.1	1.74690
n _F	486.1	1.75385
n _{F'}	480.0	1.75472
ng	435.8	1.76220
n _h	404.7	1.76920
ni	365.0	1.78127
n _{313.2}	313.2	1.80644
n _{302.2}	302.2	1.81408

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2668	P' _{s,t}	0.2642
P _{C,s}	0.5247	P' _{C,s}	0.5669
P _{d,C}	0.3015	P' _{d,C'}	0.2512
P _{e,d}	0.2381	P' _{e,d}	0.2358
P _{g,F}	0.5529	P' _{g,F'}	0.4905
P _{i,h}	0.7994	P' _{i,h}	0.7917

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0133	$\Delta P_{C,s}$	0.0066
$\Delta P_{F,e}$	-0.0024	$\Delta P_{g,F}$	-0.0090

热性质 Thermal Properties

T _g (°C)	590
T _s (°C)	621
T _{1014.5} (°C)	550
T ₁₀₁₃ (°C)	582
T _{107.6} (°C)	682
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	58
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	73
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.800	0.640
2200	0.939	0.881
2000	0.976	0.952
1800	0.989	0.979
1600	0.996	0.992
1400	0.998	0.996
1200	0.998	0.997
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.997
850	0.998	0.996
800	0.998	0.995
700	0.997	0.994
650	0.997	0.993
600	0.997	0.993
550	0.997	0.993
500	0.995	0.990
480	0.993	0.987
460	0.992	0.984
440	0.988	0.977
420	0.985	0.970
400	0.978	0.956
390	0.970	0.940
380	0.954	0.910
370	0.930	0.860
360	0.880	0.780
350	0.810	0.650
340	0.710	0.500
330	0.570	0.320
320	0.410	0.170
310	0.250	0.060
300	0.100	0.010
290		
280		

色散公式常数 Constants of Dispersion

K1	1.52005500E+000
L1	7.46606523E-003
K2	1.09140800E+000
L2	8.19422150E+001
K3	4.52588707E-001
L3	2.63954364E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	8.12E-06
D1	1.80E-08
D2	-3.55E-11
E0	6.59E-07
E1	7.00E-10
$\lambda_{TK}(\mu m)$	0.185

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	698
FA	104
E(10 ⁷ Pa)	10678
G(10 ⁷ Pa)	4084
μ	0.307
B(10 ⁻¹² /Pa)	2.21

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	5.9	6.7	7.0	7.1	7.7	8.4
-40~-20	6.1	6.8	7.0	7.2	7.8	8.4
-20~0	6.3	7.1	7.2	7.4	7.9	8.5
0~20	6.6	7.2	7.4	7.7	8.2	8.8
20~40	6.8	7.6	7.7	8.1	8.7	9.3
40~60	6.9	7.8	8.0	8.3	9.0	9.5
60~80	7.0	7.8	8.2	8.6	8.9	9.7
80~100	7.2	8.0	8.5	8.6	9.1	10.0
100~120	7.4	8.3	8.6	8.8	9.5	10.3
120~140	7.5	8.4	8.7	8.9	9.8	10.5

着色度 Color Code

λ_{80}/λ_5	370/300
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	4.14
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退火增值系数 ECFA.

β	150
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备注 Remarks

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H-LaF54S

800422

nd=

vd= 42.24

nF-nc= 0.01893

ne=

ve= 42.00

nF-nc'= 0.01915

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	
n _{1970.1}	1970.1	
n _{1529.6}	1529.6	
n _{1060.0}	1060.0	
n _t	1014.0	1.77963
n _s	852.1	1.78426
n _r	706.5	1.79072
nc	656.3	1.79387
nc'	643.9	1.79476
n _{He-Ne}	632.8	1.79560
n _D	589.3	1.79935
nd	587.6	1.79952
n _e	546.1	1.80401
n _F	486.1	1.81280
n _{F'}	480.0	1.81391
n _g	435.8	1.82354
n _h	404.7	1.83270
n _i	365.0	1.84881
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2446	P' _{s,t}	0.2418
P _{C,s}	0.5077	P' _{C,s}	0.5484
P _{d,C}	0.2983	P' _{d,C'}	0.2486
P _{e,d}	0.2372	P' _{e,d}	0.2345
P _{g,F}	0.5674	P' _{g,F'}	0.5030
P _{i,h}		P' _{i,h}	

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0071	$\Delta P_{C,s}$	0.0061
$\Delta P_{F,e}$	-0.0021	$\Delta P_{g,F}$	-0.0064

热性质 Thermal Properties

T _g (°C)	602
T _s (°C)	630
T _{1014.5} (°C)	559
T ₁₀₁₃ (°C)	587
T _{107.6} (°C)	687
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	59
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	70
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.850	0.730
2200	0.960	0.921
2000	0.984	0.969
1800	0.995	0.990
1600	0.998	0.996
1400	0.999	0.998
1200	0.999	0.998
1060	0.998	0.997
1000	0.998	0.997
950	0.998	0.996
900	0.998	0.996
850	0.998	0.996
800	0.998	0.997
700	0.998	0.997
650	0.998	0.997
600	0.998	0.996
550	0.997	0.995
500	0.997	0.994
480	0.996	0.993
460	0.995	0.991
440	0.992	0.985
420	0.987	0.974
400	0.974	0.949
390	0.961	0.924
380	0.949	0.900
370	0.900	0.810
360	0.820	0.680
350	0.680	0.460
340	0.380	0.150
330	0.080	0.010
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

A0	3.14470200E+000
A1	-1.01059061E-002
A2	3.43097001E-002
A3	-8.33127939E-004
A4	2.17008434E-004
A5	-8.70147960E-006

化学性质 Chemical Properties

	Grade
DW	1
DA	2
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	6.31E-06
D1	2.13E-08
D2	9.75E-11
E0	1.02E-06
E1	2.29E-10
$\lambda_{TK}(\mu\text{m})$	0.077

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	698
FA	104
E(10 ⁷ Pa)	11076
G(10 ⁷ Pa)	4249
μ	0.303
B(10 ⁻¹² /Pa)	2.16

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	q
-60~-40						
-40~-20	6.0	7.0	7.3	7.6	8.1	9.1
-20~0	6.0	7.0	7.2	7.4	8.7	9.1
0~20	5.9	7.1	7.2	7.7	8.4	9.1
20~40	6.2	7.3	8.0	8.2	8.5	9.3
40~60	6.8	7.5	8.5	8.7	9.3	10.0
60~80	7.4	8.1	8.6	9.1	9.9	11.1
80~100						
100~120						
120~140						

着色度 Color Code

$\lambda_{80/\lambda 5}$	395/335
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.46
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退火增值系数 ECFA.

β	140
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备注 Remarks

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H-LaF54A

800422

nd=

vd= 42.24

nF-nc= 0.01893

ne=

ve= 41.98

nF-nc'= 0.01915

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	
n _{1970.1}	1970.1	
n _{1529.6}	1529.6	
n _{1060.0}	1060.0	
n _t	1014.0	1.77964
n _s	852.1	1.78426
n _r	706.5	1.79071
nc	656.3	1.79387
nc'	643.9	1.79476
n _{He-Ne}	632.8	1.79560
n _D	589.3	1.79934
nd	587.6	1.79952
n _e	546.1	1.80401
n _F	486.1	1.81280
n _{F'}	480.0	1.81391
n _g	435.8	1.82355
n _h	404.7	1.83271
n _i	365.0	1.84881
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}		P' _{s,t}	
P _{C,s}		P' _{C,s}	
P _{d,C}	0.2985	P' _{d,C'}	0.2486
P _{e,d}	0.2372	P' _{e,d}	0.2345
P _{g,F}	0.5679	P' _{g,F'}	0.5034
P _{i,h}		P' _{i,h}	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.850	0.730
2200	0.960	0.921
2000	0.984	0.969
1800	0.995	0.990
1600	0.998	0.996
1400	0.999	0.998
1200	0.999	0.998
1060	0.998	0.997
1000	0.998	0.997
950	0.998	0.996
900	0.998	0.996
850	0.998	0.996
800	0.998	0.997
700	0.998	0.997
650	0.998	0.997
600	0.998	0.996
550	0.997	0.995
500	0.997	0.994
480	0.996	0.993
460	0.995	0.991
440	0.992	0.985
420	0.987	0.974
400	0.974	0.949
390	0.961	0.924
380	0.949	0.900
370	0.900	0.810
360	0.820	0.680
350	0.680	0.460
340	0.380	0.150
330	0.080	0.010
320		
310		
300		
290		
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$		$\Delta P_{C,s}$	
$\Delta P_{F,e}$	-0.0022	$\Delta P_{g,F}$	-0.0059

热性质 Thermal Properties

T _g (°C)	664
T _s (°C)	699
T _{1014.5} (°C)	
T ₁₀₁₃ (°C)	
T _{107.6} (°C)	
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	63
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	78
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

色散公式常数 Constants of Dispersion

A0	3.14470200E+000
A1	-1.01059061E-002
A2	3.43097001E-002
A3	-8.33127939E-004
A4	2.17008434E-004
A5	-8.70147960E-006

化学性质 Chemical Properties

	Grade
DW	1
DA	2
CR	
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	6.31E-06
D1	2.13E-08
D2	9.75E-11
E0	1.02E-06
E1	2.29E-10
$\lambda_{TK}(\mu\text{m})$	0.077

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	698
FA	104
E(10 ⁷ Pa)	11076
G(10 ⁷ Pa)	4249
μ	0.303
B(10 ⁻¹² /Pa)	

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	6.0	7.0	7.3	7.6	8.1	9.1
-20~0	6.0	7.0	7.2	7.4	8.7	9.1
0~20	5.9	7.1	7.2	7.7	8.4	9.1
20~40	6.2	7.3	8.0	8.2	8.5	9.3
40~60	6.8	7.5	8.5	8.7	9.3	10.0
60~80	7.4	8.1	8.6	9.1	9.9	11.1
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	395/335
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.23
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退火增值系数 ECFA.

β	160
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备注 Remarks

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H-LaF55S

762401

nd=

vd= 40.11

nF-nc= 0.01900

ne=

ve= 39.83

nF-nc'= 0.01924

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.72181
n _{1970.1}	1970.1	1.72746
n _{1529.6}	1529.6	1.73382
n _{1060.0}	1060.0	1.74155
n _t	1014.0	1.74255
n _s	852.1	1.74700
n _r	706.5	1.75328
nc	656.3	1.75639
nc'	643.9	1.75727
n _{He-Ne}	632.8	1.75810
n _D	589.3	1.76183
nd	587.6	1.76200
n _e	546.1	1.76651
n _F	486.1	1.77539
n _{F'}	480.0	1.77651
n _g	435.8	1.78631
n _h	404.7	1.79568
n _i	365.0	1.81237
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2342	P' _{s,t}	0.2312
P _{C,s}	0.4940	P' _{C,s}	0.5336
P _{d,C}	0.2955	P' _{d,C'}	0.2459
P _{e,d}	0.2373	P' _{e,d}	0.2343
P _{g,F}	0.5747	P' _{g,F'}	0.5089
P _{i,h}	0.8784	P' _{i,h}	0.8672

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0071	$\Delta P_{C,s}$	-0.0025
$\Delta P_{F,e}$	-0.0005	$\Delta P_{g,F}$	-0.0027

热性质 Thermal Properties

T _g (°C)	619
T _s (°C)	673
T _{1014.5} (°C)	578
T ₁₀₁₃ (°C)	613
T _{107.6} (°C)	746
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	82
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	95
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.903	0.815
2200	0.957	0.916
2000	0.981	0.962
1800	0.990	0.981
1600	0.997	0.994
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.996
700	0.998	0.996
650	0.997	0.995
600	0.997	0.995
550	0.997	0.995
500	0.996	0.992
480	0.995	0.990
460	0.994	0.988
440	0.991	0.982
420	0.987	0.975
400	0.977	0.954
390	0.963	0.928
380	0.936	0.876
370	0.879	0.772
360	0.748	0.559
350	0.477	0.228
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.73920100E+000
L1	9.74400807E-003
K2	1.16162600E+000
L2	1.11118103E+002
K3	2.79488117E-001
L3	4.23325337E-002

化学性质 Chemical Properties

	Grade
DW	2
DA	3
CR	1
RC(S)	1
RA(S)	4

折射率温度系数常数 Constants of dn/dt

D0	-2.76E-06
D1	1.53E-08
D2	-4.05E-11
E0	7.53E-07
E1	5.10E-10
$\lambda_{TK}(\mu\text{m})$	0.241

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	506
FA	179
E(10 ⁷ Pa)	9460
G(10 ⁷ Pa)	3663
μ	0.291
B(10 ⁻¹² /Pa)	1.68

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	0.0	0.8	1.1	1.3	2.1	2.7
-40~-20	0.1	0.8	1.1	1.4	2.1	3.0
-20~0	0.2	1.0	1.2	1.5	2.2	3.2
0~20	0.4	1.2	1.4	1.8	2.4	3.5
20~40	0.6	1.3	1.6	2.1	2.7	3.6
40~60	0.7	1.4	1.8	2.2	3.0	3.8
60~80	0.7	1.5	2.0	2.3	3.2	3.9
80~100	0.8	1.7	2.0	2.3	3.3	4.2
100~120	0.8	1.7	2.1	2.3	3.4	4.3
120~140	0.9	1.9	2.3	2.4	3.5	4.4

着色度 Color Code

λ_{80}/λ_5	385/340
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.30
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退火增值系数 ECFA.

β	
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备注 Remarks

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H-LaF62S

720437

nd=

vd= 43.68

nF-nc= 0.01648

ne=

ve= 43.40

nF-nc'= 0.01668

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.68320
n _{1970.1}	1970.1	1.68867
n _{1529.6}	1529.6	1.69476
n _{1060.0}	1060.0	1.70193
n _t	1014.0	1.70284
n _s	852.1	1.70683
n _r	706.5	1.71238
nc	656.3	1.71510
nc'	643.9	1.71587
n _{He-Ne}	632.8	1.71660
n _D	589.3	1.71986
nd	587.6	1.72000
n _e	546.1	1.72392
n _F	486.1	1.73159
n _{F'}	480.0	1.73256
n _g	435.8	1.74096
n _h	404.7	1.74895
n _i	365.0	1.76308
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2419	P' _{s,t}	0.2391
P _{C,s}	0.5018	P' _{C,s}	0.5421
P _{d,C}	0.2971	P' _{d,C}	0.2473
P _{e,d}	0.2376	P' _{e,d}	0.2348
P _{g,F}	0.5686	P' _{g,F}	0.5038
P _{i,h}	0.8568	P' _{i,h}	0.8466

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0083	$\Delta P_{C,s}$	-0.0032
$\Delta P_{F,e}$	-0.0004	$\Delta P_{g,F}$	-0.0027

热性质 Thermal Properties

T _g (°C)	584
T _s (°C)	637
T _{1014.5} (°C)	538
T ₁₀₁₃ (°C)	576
T _{107.6} (°C)	
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	73
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	88
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.925	0.856
2200	0.969	0.939
2000	0.987	0.974
1800	0.993	0.986
1600	0.997	0.995
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.996
700	0.998	0.996
650	0.998	0.996
600	0.998	0.996
550	0.997	0.995
500	0.996	0.993
480	0.994	0.989
460	0.994	0.988
440	0.991	0.982
420	0.988	0.977
400	0.979	0.958
390	0.967	0.936
380	0.947	0.897
370	0.904	0.817
360	0.806	0.650
350	0.581	0.338
340	0.217	0.047
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.68895100E+000
L1	9.69035551E-003
K2	1.96642414E-001
L2	4.23750803E-002
K3	1.18909500E+000
L3	1.18147041E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	3.69E-06
D1	1.78E-08
D2	-1.65E-10
E0	7.29E-07
E1	1.87E-10
$\lambda_{TK}(\mu\text{m})$	0.206

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	578
FA	173
E(10 ⁷ Pa)	10143
G(10 ⁷ Pa)	3925
μ	0.292
B(10 ⁻¹² /Pa)	2.01

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	3.1	3.6	3.9	4.1	4.8	5.5
-20~0	3.6	4.1	4.4	4.9	5.7	6.0
0~20	4.0	4.7	5.1	5.3	5.9	6.7
20~40	4.1	4.8	5.1	5.4	5.9	6.7
40~60	4.1	4.8	5.1	5.5	5.9	6.8
60~80	4.1	4.8	5.1	5.5	6.0	6.8
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	390/340
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.89
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退火增值系数 ECFA.

β	110
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备注 Remarks

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H-LaK1S

660574

nd=

vd= 57.35

nF-nc= 0.01150

ne=

ve= 57.08

nF-nc'= 0.01160

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.62729
n _{1970.1}	1970.1	1.63317
n _{1529.6}	1529.6	1.63942
n _{1060.0}	1060.0	1.64595
n _t	1014.0	1.64671
n _s	852.1	1.64988
n _r	706.5	1.65403
nc	656.3	1.65601
nc'	643.9	1.65657
n _{He-Ne}	632.8	1.65708
n _D	589.3	1.65940
nd	587.6	1.65950
n _e	546.1	1.66224
n _F	486.1	1.66751
n _{F'}	480.0	1.66817
n _g	435.8	1.67379
n _h	404.7	1.67901
n _i	365.0	1.68793
n _{313.2}	313.2	1.70614
n _{302.2}	302.2	1.71156

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2756	P' _{s,t}	0.2731
P _{C,s}	0.5336	P' _{C,s}	0.5766
P _{d,C}	0.3034	P' _{d,C'}	0.2530
P _{e,d}	0.2384	P' _{e,d}	0.2363
P _{g,F}	0.5459	P' _{g,F'}	0.4844
P _{i,h}	0.7754	P' _{i,h}	0.7685

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0073	$\Delta P_{C,s}$	-0.0038
$\Delta P_{F,e}$	-0.0002	$\Delta P_{g,F}$	-0.0021

热性质 Thermal Properties

T _g (°C)	655
T _s (°C)	683
T _{1014.5} (°C)	601
T ₁₀₁₃ (°C)	629
T _{107.6} (°C)	739
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	80
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	87
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.890	0.790
2200	0.966	0.933
2000	0.990	0.981
1800	0.997	0.994
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.998	0.996
800	0.996	0.992
700	0.995	0.991
650	0.995	0.990
600	0.995	0.990
550	0.995	0.990
500	0.994	0.989
480	0.993	0.987
460	0.992	0.985
440	0.991	0.983
420	0.990	0.981
400	0.987	0.974
390	0.983	0.966
380	0.976	0.952
370	0.963	0.927
360	0.939	0.880
350	0.901	0.810
340	0.840	0.700
330	0.740	0.550
320	0.620	0.380
310	0.470	0.220
300	0.320	0.100
290	0.200	0.040
280		

色散公式常数 Constants of Dispersion

K1	9.64886665E-001
L1	9.11939320E+001
K2	4.68480587E-001
L2	2.05810536E-002
K3	1.23722800E+000
L3	6.08509453E-003

化学性质 Chemical Properties

Grade	
DW	3
DA	6
CR	4a
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	-5.01E-06
D1	2.49E-08
D2	-4.65E-11
E0	5.72E-07
E1	-7.93E-10
$\lambda_{TK}(\mu\text{m})$	0.060

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	560
FA	176
E(10 ⁷ Pa)	8873
G(10 ⁷ Pa)	3463
μ	0.281
B(10 ⁻¹² /Pa)	1.45

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	-1.8	-1.4	-0.5	-0.2	-0.1	0.2
-20~0	-1.1	-0.8	-0.4	-0.3	-0.1	0.1
0~20	-1.1	-0.6	-0.4	-0.2	0.0	0.2
20~40	-0.5	-0.1	0.0	0.2	0.4	0.8
40~60	-0.2	0.0	0.0	0.2	0.6	1.0
60~80	-0.2	-0.1	0.0	0.2	0.7	1.2
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	360/310
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.94
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退火增值系数 ECFA.

β	125
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备注 Remarks

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H-LaK2S

692545

nd=

vd= 54.54

nF-nc= 0.01269

ne=

ve= 54.28

nF-nc'= 0.01281

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.65768
n _{1970.1}	1970.1	1.66384
n _{1529.6}	1529.6	1.67038
n _{1060.0}	1060.0	1.67731
n _t	1014.0	1.67813
n _s	852.1	1.68156
n _r	706.5	1.68609
nc	656.3	1.68827
nc'	643.9	1.68888
n _{He-Ne}	632.8	1.68945
n _D	589.3	1.69200
n _d	587.6	1.69211
n _e	546.1	1.69514
n _F	486.1	1.70096
n _{F'}	480.0	1.70169
n _g	435.8	1.70791
n _h	404.7	1.71371
n _i	365.0	1.72361
n _{313.2}	313.2	1.74388
n _{302.2}	302.2	1.74992

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2701	P' _{s,t}	0.2677
P _{C,s}	0.5290	P' _{C,s}	0.5718
P _{d,C}	0.3027	P' _{d,C'}	0.2523
P _{e,d}	0.2384	P' _{e,d}	0.2362
P _{g,F}	0.5480	P' _{g,F'}	0.4862
P _{i,h}	0.7806	P' _{i,h}	0.7735

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.820	0.673
2200	0.932	0.869
2000	0.975	0.950
1800	0.988	0.977
1600	0.995	0.991
1400	0.997	0.994
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.997	0.995
700	0.997	0.995
650	0.997	0.995
600	0.997	0.995
550	0.997	0.995
500	0.997	0.994
480	0.996	0.992
460	0.995	0.990
440	0.993	0.987
420	0.991	0.983
400	0.985	0.970
390	0.977	0.954
380	0.961	0.923
370	0.928	0.862
360	0.872	0.761
350	0.783	0.613
340	0.650	0.422
330	0.489	0.239
320	0.319	0.102
310	0.184	0.034
300		
290		
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0041	$\Delta P_{C,s}$	-0.0017
$\Delta P_{F,e}$	-0.0009	$\Delta P_{g,F}$	-0.0048

热性质 Thermal Properties

T _g (°C)	630
T _s (°C)	658
T _{1014.5} (°C)	589
T ₁₀₁₃ (°C)	612
T _{107.6} (°C)	710
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	80
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	86
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

色散公式常数 Constants of Dispersion

K1	9.14808095E-001
L1	8.23260650E+001
K2	1.00522500E+000
L2	4.50504432E-003
K3	8.03415954E-001
L3	1.83713436E-002

化学性质 Chemical Properties

	Grade
DW	3
DA	3
CR	2
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	-5.16E-06
D1	1.42E-08
D2	-4.62E-11
E0	5.61E-07
E1	5.14E-10
$\lambda_{TK}(\mu\text{m})$	0.155

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	535
FA	159
E(10 ⁷ Pa)	9415
G(10 ⁷ Pa)	3635
μ	0.295
B(10 ⁻¹² /Pa)	1.50

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-1.2	-0.7	-0.6	-0.5	0.0	0.1
-40~-20	-1.0	-0.6	-0.4	-0.4	0.2	0.3
-20~0	-1.3	-0.8	-0.6	-0.4	-0.2	0.1
0~20	-1.0	-0.7	-0.5	-0.2	-0.1	0.5
20~40	-0.9	-0.3	-0.3	-0.1	0.5	0.7
40~60	-0.8	-0.2	-0.1	0.0	0.5	0.9
60~80	-0.8	-0.1	0.0	0.1	0.7	0.9
80~100	-0.8	-0.3	-0.2	0.2	0.4	1.0
100~120	-0.8	-0.3	0.0	0.1	0.5	1.0
120~140	-0.7	-0.2	-0.1	0.1	0.5	1.1

着色度 Color Code

λ_{80}/λ_5	375/310
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.91
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退火增值系数 ECFA.

β	110
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备注 Remarks

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H-LaK3S

747510

nd=

vd= 50.95

nF-nc= 0.01466

ne=

ve= 50.71

nF-nc'= 0.01480

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.70614
n _{1970.1}	1970.1	1.71361
n _{1529.6}	1529.6	1.72152
n _{1060.0}	1060.0	1.72978
n _t	1014.0	1.73074
n _s	852.1	1.73474
n _r	706.5	1.73999
nc	656.3	1.74250
nc'	643.9	1.74320
n _{He-Ne}	632.8	1.74386
n _D	589.3	1.74680
nd	587.6	1.74693
n _e	546.1	1.75042
n _F	486.1	1.75716
n _{F'}	480.0	1.75800
n _g	435.8	1.76523
n _h	404.7	1.77197
n _i	365.0	1.78356
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2729	P' _{s,t}	0.2703
P _{C,s}	0.5295	P' _{C,s}	0.5721
P _{d,C}	0.3023	P' _{d,C}	0.2519
P _{e,d}	0.2382	P' _{e,d}	0.2360
P _{g,F}	0.5504	P' _{g,F}	0.4883
P _{i,h}	0.7904	P' _{i,h}	0.7830

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0161	$\Delta P_{C,s}$	0.0073
$\Delta P_{F,e}$	-0.0024	$\Delta P_{g,F}$	-0.0085

热性质 Thermal Properties

T _g (°C)	656
T _s (°C)	695
T _{1014.5} (°C)	603
T ₁₀₁₃ (°C)	634
T _{107.6} (°C)	742
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	62
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	74
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.820	0.670
2200	0.951	0.905
2000	0.983	0.966
1800	0.996	0.992
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.997
700	0.997	0.995
650	0.997	0.995
600	0.997	0.995
550	0.997	0.994
500	0.994	0.988
480	0.991	0.983
460	0.988	0.977
440	0.985	0.971
420	0.982	0.965
400	0.977	0.954
390	0.971	0.942
380	0.959	0.920
370	0.939	0.881
360	0.900	0.810
350	0.840	0.700
340	0.720	0.520
330	0.510	0.260
320	0.220	0.050
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.27801400E+000
L1	9.06830140E+001
K2	1.19473800E+000
L2	1.81704853E-002
K3	7.93028116E-001
L3	1.08737277E-003

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	
D1	
D2	
E0	
E1	
$\lambda_{TK}(\mu m)$	

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	672
FA	110
E(10 ⁷ Pa)	11471
G(10 ⁷ Pa)	4589
μ	0.25
B(10 ⁻¹² /Pa)	1.59

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	q
-60~-40						
-40~-20	1.9	2.8	3.1	3.2	3.9	4.3
-20~0	2.7	3.2	3.9	4.0	4.4	4.6
0~20	2.9	3.6	4.1	4.5	4.9	5.3
20~40	3.5	4.1	4.2	4.5	5.2	5.8
40~60	4.0	4.5	4.8	5.1	5.4	5.9
60~80	4.4	4.6	4.8	5.2	5.7	8.2
80~100						
100~120						
120~140						

着色度 Color Code

$\lambda_{80/\lambda 5}$	380/320
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(g/cm^3)$	4.08
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退火增值系数 ECFA.

β	150
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备注 Remarks

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H-LaK4S

640602

nd=

vd= 60.20

nF-nc= 0.01063

ne=

ve= 60.01

nF-nc'= 0.01071

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.60364
n _{1970.1}	1970.1	1.61125
n _{1529.6}	1529.6	1.61911
n _{1060.0}	1060.0	1.62671
n _t	1014.0	1.62752
n _s	852.1	1.63080
n _r	706.5	1.63486
nc	656.3	1.63674
nc'	643.9	1.63726
n _{He-Ne}	632.8	1.63775
n _D	589.3	1.63991
nd	587.6	1.64000
n _e	546.1	1.64254
n _F	486.1	1.64737
n _{F'}	480.0	1.64797
n _g	435.8	1.65308
n _h	404.7	1.65780
n _i	365.0	1.66582
n _{313.2}	313.2	1.68204
n _{302.2}	302.2	1.68683

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.3079	P' _{s,t}	0.3057
P _{C,s}	0.5586	P' _{C,s}	0.6035
P _{d,C}	0.3070	P' _{d,C'}	0.2560
P _{e,d}	0.2385	P' _{e,d}	0.2368
P _{g,F}	0.5372	P' _{g,F'}	0.4773
P _{i,h}	0.7546	P' _{i,h}	0.7492

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0366	$\Delta P_{C,s}$	0.0146
$\Delta P_{F,e}$	-0.0024	$\Delta P_{g,F}$	-0.0060

热性质 Thermal Properties

T _g (°C)	666
T _s (°C)	686
T _{1014.5} (°C)	610
T ₁₀₁₃ (°C)	639
T _{107.6} (°C)	735
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	63
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	78
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.760	0.580
2200	0.918	0.842
2000	0.975	0.951
1800	0.990	0.980
1600	0.995	0.991
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.997
650	0.998	0.997
600	0.998	0.997
550	0.998	0.996
500	0.997	0.995
480	0.997	0.994
460	0.995	0.991
440	0.994	0.988
420	0.992	0.984
400	0.987	0.974
390	0.981	0.963
380	0.971	0.943
370	0.953	0.908
360	0.920	0.847
350	0.870	0.760
340	0.790	0.630
330	0.690	0.470
320	0.560	0.310
310	0.420	0.170
300	0.290	0.080
290	0.190	0.040
280	0.120	0.010

色散公式常数 Constants of Dispersion

K1	4.02312905E-001
L1	-2.67679268E-003
K2	1.24575200E+000
L2	1.31716114E-002
K3	1.28904400E+000
L3	9.33654790E+001

化学性质 Chemical Properties

Grade	
DW	4
DA	4
CR	3
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	1.06E-06
D1	1.84E-08
D2	-7.40E-11
E0	2.79E-07
E1	6.19E-10
$\lambda_{TK}(\mu\text{m})$	0.275

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	634
FA	129
E(10 ⁷ Pa)	10903
G(10 ⁷ Pa)	4236
μ	0.287
B(10 ⁻¹² /Pa)	1.99

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	1.4	1.8	1.9	2.0	2.2	2.7
-20~0	2.0	2.2	2.3	2.4	2.4	3.1
0~20	2.1	2.2	2.4	2.7	2.9	3.2
20~40	2.2	2.5	2.6	2.7	3.3	3.7
40~60	2.3	2.8	3.0	3.1	3.4	3.7
60~80	2.5	2.9	3.0	3.1	3.4	3.8
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	355/275
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	2.99
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退火增值系数 ECFA.

β	130
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备注 Remarks

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H-LaK5S

678555

nd=

vd= 55.52

nF-nc= 0.01221

ne=

ve= 55.26

nF-nc'= 0.01232

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.64381
n _{1970.1}	1970.1	1.65003
n _{1529.6}	1529.6	1.65662
n _{1060.0}	1060.0	1.66353
n _t	1014.0	1.66433
n _s	852.1	1.66769
n _r	706.5	1.67209
nc	656.3	1.67420
nc'	643.9	1.67479
n _{He-Ne}	632.8	1.67534
n _D	589.3	1.67779
nd	587.6	1.67790
n _e	546.1	1.68081
n _F	486.1	1.68641
n _{F'}	480.0	1.68711
n _g	435.8	1.69308
n _h	404.7	1.69863
n _i	365.0	1.70812
n _{313.2}	313.2	1.72757
n _{302.2}	302.2	1.73338

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2750	P' _{s,t}	0.2726
P _{C,s}	0.5331	P' _{C,s}	0.5762
P _{d,C}	0.3033	P' _{d,C'}	0.2528
P _{e,d}	0.2384	P' _{e,d}	0.2363
P _{g,F}	0.5462	P' _{g,F'}	0.4847
P _{i,h}	0.7771	P' _{i,h}	0.7702

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0003	$\Delta P_{C,s}$	0.0001
$\Delta P_{F,e}$	-0.0011	$\Delta P_{g,F}$	-0.0049

热性质 Thermal Properties

T _g (°C)	646
T _s (°C)	669
T _{1014.5} (°C)	616
T ₁₀₁₃ (°C)	632
T _{107.6} (°C)	722
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	83
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	94
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.855	0.731
2200	0.956	0.914
2000	0.984	0.969
1800	0.993	0.987
1600	0.997	0.995
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.996
700	0.998	0.996
650	0.998	0.996
600	0.997	0.995
550	0.997	0.994
500	0.996	0.993
480	0.995	0.991
460	0.993	0.987
440	0.991	0.983
420	0.990	0.981
400	0.988	0.976
390	0.984	0.969
380	0.977	0.955
370	0.963	0.928
360	0.939	0.882
350	0.898	0.807
340	0.835	0.697
330	0.741	0.549
320	0.618	0.382
310	0.469	0.220
300	0.302	0.091
290	0.158	0.025
280		

色散公式常数 Constants of Dispersion

K1	1.54437400E+000
L1	8.15901067E-003
K2	1.00067000E+000
L2	8.89110720E+001
K3	2.19123766E-001
L3	2.67011095E-002

化学性质 Chemical Properties

Grade	
DW	3
DA	6
CR	2
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	-4.10E-06
D1	1.07E-08
D2	-1.69E-11
E0	5.87E-07
E1	1.27E-09
$\lambda_{TK}(\mu\text{m})$	0.095

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	576
FA	174
E(10 ⁷ Pa)	9561
G(10 ⁷ Pa)	3705
μ	0.29
B(10 ⁻¹² /Pa)	1.57

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-0.4	0.0	0.2	0.0	0.7	0.8
-40~-20	-0.1	0.1	0.2	0.3	0.4	0.8
-20~0	-0.5	0.0	0.0	0.2	0.6	0.9
0~20	-0.1	0.0	0.1	0.5	0.7	1.2
20~40	-0.2	0.3	0.5	0.7	1.1	1.6
40~60	-0.6	0.1	0.2	0.4	0.8	1.2
60~80	-0.3	0.4	0.6	0.8	1.1	1.6
80~100	-0.1	0.7	0.8	0.9	1.3	1.8
100~120	0.1	0.7	0.9	1.0	1.5	1.9
120~140	0.3	0.7	0.9	1.2	1.6	1.9

着色度 Color Code

λ_{80}/λ_5	360/295
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.80
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退火增值系数 ECFA.

β	120
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备注 Remarks

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H-LaK6S

694534

nd=

vd= 53.38

nF-nc= 0.01299

ne=

ve= 53.15

nF-nc'= 0.01311

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.65439
n _{1970.1}	1970.1	1.66200
n _{1529.6}	1529.6	1.66994
n _{1060.0}	1060.0	1.67794
n _t	1014.0	1.67884
n _s	852.1	1.68254
n _r	706.5	1.68730
nc	656.3	1.68955
nc'	643.9	1.69018
n _{He-Ne}	632.8	1.69077
n _D	589.3	1.69338
nd	587.6	1.69350
n _e	546.1	1.69660
n _F	486.1	1.70254
n _{F'}	480.0	1.70329
n _g	435.8	1.70965
n _h	404.7	1.71557
n _i	365.0	1.72576
n _{313.2}	313.2	1.74690
n _{302.2}	302.2	1.75330

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2849	P' _{s,t}	0.2825
P _{C,s}	0.5395	P' _{C,s}	0.5828
P _{d,C}	0.3039	P' _{d,C'}	0.2533
P _{e,d}	0.2383	P' _{e,d}	0.2362
P _{g,F}	0.5466	P' _{g,F'}	0.4853
P _{i,h}	0.7839	P' _{i,h}	0.7772

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0267	$\Delta P_{C,s}$	0.0115
$\Delta P_{F,e}$	-0.0027	$\Delta P_{g,F}$	-0.0082

热性质 Thermal Properties

T _g (°C)	638
T _s (°C)	673
T _{1014.5} (°C)	600
T ₁₀₁₃ (°C)	626
T _{107.6} (°C)	724
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	60
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	73
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.770	0.590
2200	0.923	0.853
2000	0.976	0.953
1800	0.992	0.984
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.998
550	0.998	0.997
500	0.997	0.994
480	0.996	0.993
460	0.995	0.990
440	0.993	0.987
420	0.991	0.983
400	0.988	0.976
390	0.983	0.967
380	0.975	0.951
370	0.960	0.922
360	0.929	0.863
350	0.870	0.760
340	0.730	0.540
330	0.470	0.220
320	0.140	0.020
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.13018400E+000
L1	8.14541550E+001
K2	1.60589000E+000
L2	8.17222707E-003
K3	2.07868978E-001
L3	3.03803161E-002

化学性质 Chemical Properties

Grade	
DW	2
DA	6
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	3.08E-06
D1	1.57E-08
D2	-1.21E-11
E0	5.18E-07
E1	5.95E-10
$\lambda_{TK}(\mu m)$	0.182

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	683
FA	113
E(10 ⁷ Pa)	10770
G(10 ⁷ Pa)	4206
μ	0.28
B(10 ⁻¹² /Pa)	2.01

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	3.3	3.8	4.0	4.1	4.4	4.8
-40~-20	3.3	3.8	4.0	4.1	4.5	5.0
-20~0	3.4	3.8	4.0	4.1	4.5	5.0
0~20	3.4	3.9	4.0	4.3	4.6	5.0
20~40	3.6	4.1	4.2	4.4	4.8	5.2
40~60	3.8	4.3	4.5	4.6	5.2	5.6
60~80	4.0	4.6	4.7	4.9	5.5	6.0
80~100	4.0	4.7	4.9	5.1	5.5	6.1
100~120	4.2	4.9	5.3	5.5	5.8	6.4
120~140	4.4	4.9	5.4	5.6	5.8	6.5

着色度 Color Code

$\lambda_{80/\lambda 5}$	365/320
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(g/cm^3)$	3.59
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退火增值系数 ECFA.

β	145
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备注 Remarks

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H-LaK7B

713539

nd=

vd= 53.94

nF-nc= 0.01322

ne=

ve= 53.72

nF-nc'= 0.01333

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.67450
n _{1970.1}	1970.1	1.68160
n _{1529.6}	1529.6	1.68930
n _{1060.0}	1060.0	1.69728
n _t	1014.0	1.69818
n _s	852.1	1.70182
n _r	706.5	1.70670
nc	656.3	1.70898
nc'	643.9	1.70962
n _{He-Ne}	632.8	1.71021
n _D	589.3	1.71287
nd	587.6	1.71300
n _e	546.1	1.71615
n _F	486.1	1.72220
n _{F'}	480.0	1.72295
n _g	435.8	1.72943
n _h	404.7	1.73545
n _i	365.0	1.74574
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}		P' _{s,t}	
P _{C,s}		P' _{C,s}	
P _{d,C}	0.3041	P' _{d,C'}	0.2535
P _{e,d}	0.2383	P' _{e,d}	0.2363
P _{g,F}	0.5469	P' _{g,F'}	0.4860
P _{i,h}		P' _{i,h}	

内透射率 Internal Transmittance

λ (nm)	τ 5mm	τ 10mm
2400	0.774	0.600
2200	0.924	0.854
2000	0.986	0.972
1800	0.999	0.998
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.998
550	0.999	0.998
500	0.999	0.998
480	0.999	0.998
460	0.998	0.996
440	0.997	0.993
420	0.995	0.990
400	0.993	0.984
390	0.990	0.977
380	0.987	0.964
370	0.975	0.939
360	0.950	0.899
350	0.914	0.833
340	0.860	0.738
330	0.785	0.614
320	0.687	0.473
310	0.577	0.334
300	0.464	0.217
290	0.355	0.128
280	0.248	0.063

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0155	$\Delta P_{C,s}$	0.0057
$\Delta P_{F,e}$	-0.0028	$\Delta P_{g,F}$	-0.0071

热性质 Thermal Properties

T _g (°C)	627
T _s (°C)	662
T _{1014.5} (°C)	573
T ₁₀₁₃ (°C)	619
T _{107.6} (°C)	
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	63
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	77
$\lambda(W/m\cdot K)$	

色散公式常数 Constants of Dispersion

A0	2.87989000E+000
A1	-1.46958698E-002
A2	1.89956892E-002
A3	6.06495305E-004
A4	-2.91346732E-005
A5	1.65584322E-006

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	
RC(S)	1
RA(S)	2

折射率温度系数常数 Constants of dn/dt

D0	3.18E-06
D1	1.31E-08
D2	-1.47E-11
E0	5.57E-07
E1	3.42E-10
$\lambda_{TK}(\mu m)$	0.146

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	626
FA	76
E(10 ⁷ Pa)	11590
G(10 ⁷ Pa)	4490
μ	0.291
B(10 ⁻¹² /Pa)	1.67

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	3.6	4.1	4.2	4.3	4.7	5.1
-40~-20	3.6	4.0	4.3	4.3	4.9	5.2
-20~0	3.7	4.1	4.3	4.5	4.9	5.3
0~20	3.7	4.1	4.4	4.5	5.1	5.4
20~40	3.7	4.1	4.4	4.6	5.1	5.5
40~60	3.7	4.2	4.5	4.7	5.2	5.6
60~80	3.8	4.3	4.7	4.9	5.3	5.7
80~100	3.9	4.5	5.1	5.0	5.4	5.8
100~120	4.1	4.7	5.3	5.3	5.4	6.0
120~140	4.2	4.8	5.4	5.4	5.6	6.2

着色度 Color Code

λ_{80}/λ_5	365/270
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	3.78
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退火增值系数 ECFA.

β	145
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备注 Remarks

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H-LaK8S

720503

nd=

vd= 50.34

nF-nc= 0.01430

ne=

ve= 50.11

nF-nc'= 0.01444

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.67897
n _{1970.1}	1970.1	1.68671
n _{1529.6}	1529.6	1.69483
n _{1060.0}	1060.0	1.70316
n _t	1014.0	1.70411
n _s	852.1	1.70807
n _r	706.5	1.71322
nc	656.3	1.71567
nc'	643.9	1.71636
n _{He-Ne}	632.8	1.71700
n _D	589.3	1.71987
nd	587.6	1.72000
n _e	546.1	1.72341
n _F	486.1	1.72998
n _{F'}	480.0	1.73080
n _g	435.8	1.73786
n _h	404.7	1.74448
n _i	365.0	1.75593
n _{313.2}	313.2	1.78010
n _{302.2}	302.2	1.78756

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2767	P' _{s,t}	0.2742
P _{C,s}	0.5320	P' _{C,s}	0.5747
P _{d,C}	0.3025	P' _{d,C'}	0.2520
P _{e,d}	0.2381	P' _{e,d}	0.2359
P _{g,F}	0.5514	P' _{g,F'}	0.4893
P _{i,h}	0.8007	P' _{i,h}	0.7932

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0253	$\Delta P_{C,s}$	0.0113
$\Delta P_{F,e}$	-0.0027	$\Delta P_{g,F}$	-0.0086

热性质 Thermal Properties

T _g (°C)	632
T _s (°C)	667
T _{1014.5} (°C)	591
T ₁₀₁₃ (°C)	626
T _{107.6} (°C)	721
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	59
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	72
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.780	0.610
2200	0.927	0.860
2000	0.978	0.957
1800	0.993	0.987
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.997	0.994
700	0.997	0.994
650	0.996	0.993
600	0.996	0.993
550	0.996	0.992
500	0.994	0.989
480	0.992	0.985
460	0.990	0.981
440	0.988	0.976
420	0.984	0.968
400	0.977	0.954
390	0.969	0.938
380	0.955	0.912
370	0.931	0.867
360	0.890	0.790
350	0.830	0.690
340	0.720	0.520
330	0.550	0.300
320	0.280	0.080
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.13861900E+000
L1	8.00744630E+001
K2	1.58050537E-001
L2	3.68197709E-002
K3	1.73934600E+000
L3	9.09532048E-003

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	4.02E-06
D1	1.82E-08
D2	-1.04E-10
E0	4.87E-07
E1	9.07E-10
$\lambda_{TK}(\mu m)$	0.216

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	607
FA	105
E(10 ⁷ Pa)	10941
G(10 ⁷ Pa)	4233
μ	0.292
B(10 ⁻¹² /Pa)	1.92

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	3.1	3.6	3.8	4.0	4.4	4.7
-20~0	3.9	4.2	4.4	4.7	5.1	5.5
0~20	4.1	4.2	4.3	4.9	5.3	5.8
20~40	4.2	4.7	5.0	5.2	5.7	6.0
40~60	4.2	5.0	5.0	5.2	5.8	6.4
60~80	4.3	5.1	5.2	5.2	5.9	6.5
80~100						
100~120						
120~140						

着色度 Color Code

$\lambda_{80/\lambda 5}$	370/315
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(g/cm^3)$	3.77
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退火增值系数 ECFA.

β	150
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备注 Remarks

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H-LaK10S

651559

nd=

vd= 55.89

nF-nc= 0.01165

ne=

ve= 55.62

nF-nc'= 0.01176

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.61940
n _{1970.1}	1970.1	1.62504
n _{1529.6}	1529.6	1.63108
n _{1060.0}	1060.0	1.63751
n _t	1014.0	1.63826
n _s	852.1	1.64143
n _r	706.5	1.64560
nc	656.3	1.64760
nc'	643.9	1.64816
n _{He-Ne}	632.8	1.64869
n _D	589.3	1.65103
nd	587.6	1.65113
n _e	546.1	1.65391
n _F	486.1	1.65925
n _{F'}	480.0	1.65992
n _g	435.8	1.66563
n _h	404.7	1.67094
n _i	365.0	1.68002
n _{313.2}	313.2	1.69857
n _{302.2}	302.2	1.70409

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2718	P' _{s,t}	0.2693
P _{C,s}	0.5302	P' _{C,s}	0.5730
P _{d,C}	0.3028	P' _{d,C'}	0.2524
P _{e,d}	0.2384	P' _{e,d}	0.2362
P _{g,F}	0.5475	P' _{g,F'}	0.4858
P _{i,h}	0.7792	P' _{i,h}	0.7721

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0076	$\Delta P_{C,s}$	-0.0037
$\Delta P_{F,e}$	-0.0004	$\Delta P_{g,F}$	-0.0030

热性质 Thermal Properties

T _g (°C)	618
T _s (°C)	668
T _{1014.5} (°C)	575
T ₁₀₁₃ (°C)	607
T _{107.6} (°C)	721
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	75
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	84
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.888	0.789
2200	0.950	0.903
2000	0.983	0.967
1800	0.992	0.984
1600	0.997	0.994
1400	0.997	0.994
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.998	0.997
550	0.997	0.995
500	0.997	0.994
480	0.997	0.994
460	0.997	0.994
440	0.997	0.994
420	0.997	0.994
400	0.996	0.993
390	0.995	0.990
380	0.992	0.985
370	0.986	0.972
360	0.976	0.952
350	0.954	0.911
340	0.920	0.847
330	0.863	0.744
320	0.775	0.600
310	0.650	0.422
300	0.493	0.243
290	0.327	0.107
280	0.210	0.044

色散公式常数 Constants of Dispersion

K1	7.83174634E-001
L1	2.73169507E-003
K2	8.94315064E-001
L2	1.69034339E-002
K3	1.13896900E+000
L3	1.11158585E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	-9.18E-07
D1	1.25E-08
D2	-2.28E-11
E0	4.91E-07
E1	6.43E-10
$\lambda_{TK}(\mu m)$	0.189

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	634
FA	162
E(10 ⁷ Pa)	9309
G(10 ⁷ Pa)	3659
μ	0.272
B(10 ⁻¹² /Pa)	1.74

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	1.4	1.7	1.9	2.0	2.3	2.6
-40~-20	1.2	1.6	1.7	1.9	2.4	2.6
-20~0	1.2	1.6	1.7	1.9	2.1	2.6
0~20	1.3	1.6	1.8	1.9	2.2	2.7
20~40	1.3	1.7	1.9	2.0	2.4	2.8
40~60	1.4	1.8	2.0	2.2	2.6	3.0
60~80	1.5	2.0	2.2	2.4	2.9	3.2
80~100	1.6	2.1	2.3	2.6	3.0	3.3
100~120	1.6	2.1	2.3	2.6	3.0	3.4
120~140	1.5	2.1	2.4	2.5	2.9	3.3

着色度 Color Code

λ_{80}/λ_5	350/285
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	3.73
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退火增值系数 ECFA.

β	120
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备注 Remarks

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H-LaK11S

665546

nd=

vd= 54.61

nF-nc= 0.01217

ne=

ve= 54.33

nF-nc'= 0.01229

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.63249
n _{1970.1}	1970.1	1.63808
n _{1529.6}	1529.6	1.64407
n _{1060.0}	1060.0	1.65053
n _t	1014.0	1.65129
n _s	852.1	1.65454
n _r	706.5	1.65886
nc	656.3	1.66093
nc'	643.9	1.66152
n _{He-Ne}	632.8	1.66206
n _D	589.3	1.66450
n _d	587.6	1.66461
n _e	546.1	1.66751
n _F	486.1	1.67310
n _{F'}	480.0	1.67380
n _g	435.8	1.67980
n _h	404.7	1.68539
n _i	365.0	1.69498
n _{313.2}	313.2	1.71471
n _{302.2}	302.2	1.72062

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2666	P' _{s,t}	0.2640
P _{C,s}	0.5256	P' _{C,s}	0.5680
P _{d,C}	0.3021	P' _{d,C'}	0.2517
P _{e,d}	0.2383	P' _{e,d}	0.2360
P _{g,F}	0.5502	P' _{g,F'}	0.4880
P _{i,h}	0.7878	P' _{i,h}	0.7803

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0115	$\Delta P_{C,s}$	-0.0053
$\Delta P_{F,e}$	-0.0002	$\Delta P_{g,F}$	-0.0025

热性质 Thermal Properties

T _g (°C)	621
T _s (°C)	645
T _{1014.5} (°C)	578
T ₁₀₁₃ (°C)	608
T _{107.6} (°C)	708
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	76
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	88
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.880	0.780
2200	0.961	0.923
2000	0.986	0.973
1800	0.995	0.990
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.997
700	0.998	0.997
650	0.997	0.994
600	0.996	0.993
550	0.996	0.993
500	0.996	0.993
480	0.995	0.990
460	0.993	0.987
440	0.992	0.984
420	0.991	0.983
400	0.990	0.980
390	0.987	0.975
380	0.983	0.966
370	0.975	0.950
360	0.959	0.919
350	0.936	0.876
340	0.897	0.805
330	0.840	0.700
320	0.750	0.560
310	0.600	0.360
300	0.370	0.140
290	0.110	0.010
280		

色散公式常数 Constants of Dispersion

K1	1.09089500E+000
L1	4.92618931E-003
K2	6.28436029E-001
L2	2.03181431E-002
K3	1.01438300E+000
L3	1.00530945E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	3
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	-1.34E-06
D1	2.38E-08
D2	-5.50E-11
E0	4.75E-07
E1	6.18E-11
$\lambda_{TK}(\mu\text{m})$	0.228

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	517
FA	175
E(10 ⁷ Pa)	8434
G(10 ⁷ Pa)	3267
μ	0.291
B(10 ⁻¹² /Pa)	1.93

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	0.4	0.6	1.1	1.4	2.1	2.4
-20~0	0.6	1.1	1.3	1.5	1.9	2.2
0~20	0.8	1.2	1.4	1.7	1.9	2.2
20~40	1.4	1.8	1.9	2.3	2.6	3.1
40~60	1.6	1.8	2.0	2.3	2.7	3.2
60~80	1.6	1.8	2.0	2.2	2.7	3.2
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	360/300
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.02
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退火增值系数 ECFA.

β	105
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备注 Remarks

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H-LaK12S

697562

nd=

vd= 56.18

nF-nc= 0.01240

ne=

ve= 55.95

nF-nc'= 0.01251

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.65832
n _{1970.1}	1970.1	1.66593
n _{1529.6}	1529.6	1.67386
n _{1060.0}	1060.0	1.68178
n _t	1014.0	1.68266
n _s	852.1	1.68626
n _r	706.5	1.69086
nc	656.3	1.69302
nc'	643.9	1.69362
n _{He-Ne}	632.8	1.69419
n _D	589.3	1.69669
nd	587.6	1.69680
n _e	546.1	1.69976
n _F	486.1	1.70542
n _{F'}	480.0	1.70613
n _g	435.8	1.71216
n _h	404.7	1.71775
n _i	365.0	1.72730
n _{313.2}	313.2	1.74676
n _{302.2}	302.2	1.75255

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2905	P' _{s,t}	0.2881
P _{C,s}	0.5447	P' _{C,s}	0.5884
P _{d,C}	0.3048	P' _{d,C'}	0.2541
P _{e,d}	0.2384	P' _{e,d}	0.2364
P _{g,F}	0.5429	P' _{g,F'}	0.4821
P _{i,h}	0.7696	P' _{i,h}	0.7633

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0242	$\Delta P_{C,s}$	0.0101
$\Delta P_{F,e}$	-0.0022	$\Delta P_{g,F}$	-0.0071

热性质 Thermal Properties

T _g (°C)	662
T _s (°C)	684
T _{1014.5} (°C)	631
T ₁₀₁₃ (°C)	658
T _{107.6} (°C)	732
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	64
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	80
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.787	0.619
2200	0.944	0.890
2000	0.981	0.961
1800	0.993	0.987
1600	0.998	0.995
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.997
900	0.999	0.997
850	0.998	0.996
800	0.998	0.996
700	0.998	0.996
650	0.997	0.995
600	0.997	0.994
550	0.997	0.994
500	0.997	0.994
480	0.996	0.992
460	0.994	0.989
440	0.992	0.985
420	0.990	0.981
400	0.987	0.975
390	0.983	0.967
380	0.976	0.953
370	0.963	0.927
360	0.940	0.884
350	0.902	0.813
340	0.845	0.714
330	0.766	0.586
320	0.662	0.438
310	0.533	0.284
300	0.379	0.144
290	0.202	0.041
280		

色散公式常数 Constants of Dispersion

K1	7.86703110E-001
L1	2.02073227E-003
K2	1.21770400E+000
L2	8.67034840E+001
K3	1.04086900E+000
L3	1.63643416E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	6

折射率温度系数常数 Constants of dn/dt

D0	-1.86E-07
D1	1.39E-08
D2	-1.79E-11
E0	4.74E-07
E1	4.36E-10
$\lambda_{TK}(\mu m)$	0.167

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	686
FA	118
E(10 ⁷ Pa)	10851
G(10 ⁷ Pa)	4337
μ	0.251
B(10 ⁻¹² /Pa)	1.62

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	1.5	1.9	2.1	2.2	2.6	2.8
-40~-20	1.5	2.0	2.1	2.3	2.6	2.9
-20~0	1.7	2.0	2.2	2.3	2.6	3.0
0~20	1.7	2.1	2.3	2.4	2.7	3.1
20~40	1.7	2.2	2.4	2.5	2.8	3.2
40~60	1.8	2.3	2.5	2.7	3.0	3.4
60~80	2.0	2.5	2.7	2.9	3.2	3.6
80~100	2.2	2.7	2.8	3.0	3.4	3.8
100~120	2.3	2.7	2.9	3.1	3.5	4.0
120~140	2.3	2.8	3.1	3.3	3.5	4.1

着色度 Color Code

λ_{80}/λ_5	365/295
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	3.71
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退火增值系数 ECFA.

β	135
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备注 Remarks

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H-LaK50S

652584

nd=

vd= 58.40

nF-nC= 0.01116

ne=

ve= 58.17

nF-nC'= 0.01125

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.61634
n _{1970.1}	1970.1	1.62338
n _{1529.6}	1529.6	1.63071
n _{1060.0}	1060.0	1.63800
n _t	1014.0	1.63880
n _s	852.1	1.64208
n _r	706.5	1.64624
n _C	656.3	1.64819
n _{C'}	643.9	1.64874
n _{He-Ne}	632.8	1.64924
n _D	589.3	1.65150
n _d	587.6	1.65160
n _e	546.1	1.65426
n _F	486.1	1.65935
n _{F'}	480.0	1.65998
n _g	435.8	1.66539
n _h	404.7	1.67040
n _i	365.0	1.67893
n _{313.2}	313.2	1.69627
n _{302.2}	302.2	1.70141

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2942	P' _{s,t}	0.2918
P _{C,s}	0.5477	P' _{C,s}	0.5917
P _{d,C}	0.3055	P' _{d,C'}	0.2546
P _{e,d}	0.2385	P' _{e,d}	0.2366
P _{g,F}	0.5413	P' _{g,F'}	0.4806
P _{i,h}	0.7646	P' _{i,h}	0.7585

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0204	$\Delta P_{C,s}$	0.0079
$\Delta P_{F,e}$	-0.0018	$\Delta P_{g,F}$	-0.0050

热性质 Thermal Properties

T _g (°C)	594
T _s (°C)	633
T _{1014.5} (°C)	554
T ₁₀₁₃ (°C)	585
T _{107.6} (°C)	688
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	68
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	82
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.817	0.668
2200	0.943	0.889
2000	0.982	0.964
1800	0.993	0.985
1600	0.997	0.994
1400	0.996	0.993
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.997
800	0.998	0.996
700	0.998	0.996
650	0.998	0.996
600	0.997	0.995
550	0.997	0.994
500	0.997	0.994
480	0.996	0.992
460	0.994	0.989
440	0.993	0.986
420	0.991	0.983
400	0.989	0.979
390	0.986	0.972
380	0.979	0.959
370	0.969	0.938
360	0.948	0.899
350	0.913	0.833
340	0.852	0.726
330	0.764	0.584
320	0.640	0.409
310	0.488	0.238
300	0.319	0.102
290	0.167	0.028
280		

色散公式常数 Constants of Dispersion

K1	7.59437680E-001
L1	2.23196740E-003
K2	1.16056800E+000
L2	9.10466310E+001
K3	9.23360825E-001
L3	1.58590991E-002

化学性质 Chemical Properties

Grade	
DW	3
DA	6
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	5.60E-07
D1	1.06E-08
D2	-4.91E-11
E0	3.57E-07
E1	6.22E-10
$\lambda_{TK}(\mu\text{m})$	0.245

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	618
FA	135
E(10 ⁷ Pa)	10142
G(10 ⁷ Pa)	4011
μ	0.264
B(10 ⁻¹² /Pa)	1.86

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	1.3	1.5	2.1	2.3	2.5	2.8
-20~0	2.0	2.6	2.7	2.8	3.0	3.3
0~20	2.0	2.3	2.6	2.7	2.8	3.2
20~40	2.0	2.2	2.5	2.6	2.9	3.3
40~60	2.1	2.4	2.5	2.6	2.8	3.5
60~80	2.2	2.3	2.4	2.9	3.7	3.9
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	350/290
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.48
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退火增值系数 ECFA.

β	130
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备注 Remarks

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H-LaK51S

697555

nd=

vd= 55.53

nF-nc= 0.01255

ne=

ve= 55.30

nF-nc'= 0.01266

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.65847
n _{1970.1}	1970.1	1.66596
n _{1529.6}	1529.6	1.67380
n _{1060.0}	1060.0	1.68168
n _t	1014.0	1.68256
n _s	852.1	1.68617
n _r	706.5	1.69080
nc	656.3	1.69298
nc'	643.9	1.69359
n _{He-Ne}	632.8	1.69416
n _D	589.3	1.69669
nd	587.6	1.69680
n _e	546.1	1.69979
n _F	486.1	1.70553
n _{F'}	480.0	1.70624
ng	435.8	1.71236
n _h	404.7	1.71804
ni	365.0	1.72774
n _{313.2}	313.2	1.74755
n _{302.2}	302.2	1.75344

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2880	P' _{s,t}	0.2856
P _{C,s}	0.5423	P' _{C,s}	0.5859
P _{d,C}	0.3045	P' _{d,C'}	0.2538
P _{e,d}	0.2383	P' _{e,d}	0.2363
P _{g,F}	0.5442	P' _{g,F'}	0.4831
P _{i,h}	0.7730	P' _{i,h}	0.7666

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0224	$\Delta P_{C,s}$	0.0093
$\Delta P_{F,e}$	-0.0022	$\Delta P_{g,F}$	-0.0070

热性质 Thermal Properties

T _g (°C)	654
T _s (°C)	682
T _{1014.5} (°C)	616
T ₁₀₁₃ (°C)	640
T _{107.6} (°C)	724
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	68
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	81
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.796	0.633
2200	0.945	0.892
2000	0.981	0.963
1800	0.993	0.987
1600	0.998	0.995
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.996	0.993
700	0.996	0.993
650	0.997	0.995
600	0.997	0.995
550	0.997	0.995
500	0.997	0.994
480	0.997	0.994
460	0.995	0.990
440	0.993	0.987
420	0.992	0.985
400	0.990	0.980
390	0.987	0.975
380	0.983	0.966
370	0.972	0.945
360	0.956	0.913
350	0.928	0.861
340	0.883	0.780
330	0.822	0.675
320	0.744	0.553
310	0.652	0.425
300	0.558	0.312
290	0.467	0.218
280	0.385	0.148

色散公式常数 Constants of Dispersion

K1	6.39398694E-001
L1	5.67124880E-005
K2	1.18748500E+000
L2	1.58001985E-002
K3	1.26545400E+000
L3	9.10970460E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	8.08E-08
D1	1.25E-08
D2	-7.70E-12
E0	4.99E-07
E1	6.10E-10
$\lambda_{TK}(\mu\text{m})$	0.161

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	695
FA	111
E(10 ⁷ Pa)	11314
G(10 ⁷ Pa)	4428
μ	0.278
B(10 ⁻¹² /Pa)	1.69

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	1.6	2.0	2.0	2.3	2.6	2.8
-40~-20	1.9	2.0	2.3	2.4	2.8	3.1
-20~0	1.9	2.2	2.5	2.6	3.0	3.4
0~20	2.0	2.4	2.6	3.0	3.0	3.4
20~40	1.8	2.4	2.5	2.7	3.1	3.5
40~60	1.9	2.5	2.8	2.7	3.2	3.5
60~80	2.2	2.6	2.8	3.1	3.3	3.8
80~100	2.4	2.8	2.9	3.2	3.6	4.1
100~120	2.5	3.1	3.2	3.4	3.9	4.4
120~140	2.6	3.2	3.4	3.7	4.0	4.6

着色度 Color Code

λ_{80}/λ_5	365/275
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.61
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退火增值系数 ECFA.

β	140
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备注 Remarks

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H-LaK52S

729547

nd=

vd= 54.68

nF-nc= 0.01333

ne=

ve= 54.46

nF-nc'= 0.01345

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.68923
n _{1970.1}	1970.1	1.69695
n _{1529.6}	1529.6	1.70502
n _{1060.0}	1060.0	1.71319
n _t	1014.0	1.71411
n _s	852.1	1.71791
n _r	706.5	1.72279
nc	656.3	1.72511
nc'	643.9	1.72575
n _{He-Ne}	632.8	1.72635
n _D	589.3	1.72904
nd	587.6	1.72916
n _e	546.1	1.73234
n _F	486.1	1.73844
n _{F'}	480.0	1.73920
n _g	435.8	1.74570
n _h	404.7	1.75175
n _i	365.0	1.76207
n _{313.2}	313.2	1.78314
n _{302.2}	302.2	1.78940

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2847	P' _{s,t}	0.2823
P _{C,s}	0.5398	P' _{C,s}	0.5833
P _{d,C}	0.3041	P' _{d,C'}	0.2535
P _{e,d}	0.2383	P' _{e,d}	0.2363
P _{g,F}	0.5448	P' _{g,F'}	0.4836
P _{i,h}	0.7740	P' _{i,h}	0.7675

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0206	$\Delta P_{C,s}$	0.0088
$\Delta P_{F,e}$	-0.0023	$\Delta P_{g,F}$	-0.0078

热性质 Thermal Properties

T _g (°C)	673
T _s (°C)	696
T _{1014.5} (°C)	630
T ₁₀₁₃ (°C)	654
T _{107.6} (°C)	
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	60
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	74
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.840	0.700
2200	0.948	0.898
2000	0.981	0.962
1800	0.992	0.985
1600	0.998	0.996
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.997
650	0.998	0.997
600	0.997	0.995
550	0.997	0.995
500	0.997	0.994
480	0.997	0.994
460	0.995	0.991
440	0.994	0.988
420	0.992	0.984
400	0.988	0.977
390	0.984	0.969
380	0.983	0.966
370	0.966	0.933
360	0.950	0.900
350	0.910	0.830
340	0.860	0.740
330	0.780	0.610
320	0.690	0.470
310	0.570	0.330
300	0.480	0.230
290	0.390	0.150
280	0.260	0.070

色散公式常数 Constants of Dispersion

K1	6.48528814E-001
L1	1.65816193E-004
K2	1.28450400E+000
L2	1.58113893E-002
K3	1.23774600E+000
L3	8.57406160E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	6.32E-07
D1	1.75E-08
D2	-2.89E-11
E0	5.00E-07
E1	3.79E-10
$\lambda_{TK}(\mu m)$	0.163

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	765
FA	108
E(10 ⁷ Pa)	11761
G(10 ⁷ Pa)	4554
μ	0.291
B(10 ⁻¹² /Pa)	1.43

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	1.7	2.2	2.3	2.5	3.1	3.3
-40~-20	1.9	2.3	2.4	2.7	3.1	3.4
-20~0	2.1	2.3	2.5	2.7	3.1	3.4
0~20	2.2	2.5	2.7	2.8	3.2	3.6
20~40	2.3	2.7	2.9	3.0	3.5	3.9
40~60	2.4	3.0	3.3	3.4	3.7	4.4
60~80	2.7	3.3	3.5	3.7	3.9	4.6
80~100	2.9	3.4	3.6	3.8	4.2	4.6
100~120	2.9	3.6	3.8	3.9	4.3	4.6
120~140	3.0	3.7	3.9	4.0	4.5	4.7

着色度 Color Code

$\lambda_{80/\lambda 5}$	365/275
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(g/cm^3)$	4.06
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退火增值系数 ECFA.

β	150
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备注 Remarks

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H-LaK53S

755523

nd=

vd= 52.32

nF-nc= 0.01443

ne=

ve= 52.09

nF-nc'= 0.01456

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.71385
n _{1970.1}	1970.1	1.72154
n _{1529.6}	1529.6	1.72963
n _{1060.0}	1060.0	1.73798
n _t	1014.0	1.73893
n _s	852.1	1.74293
n _r	706.5	1.74814
nc	656.3	1.75063
nc'	643.9	1.75132
n _{He-Ne}	632.8	1.75197
n _D	589.3	1.75487
nd	587.6	1.75500
n _e	546.1	1.75844
n _F	486.1	1.76506
n _{F'}	480.0	1.76588
n _g	435.8	1.77296
n _h	404.7	1.77954
n _i	365.0	1.79082
n _{313.2}	313.2	1.81397
n _{302.2}	302.2	1.82089

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2769	P' _{s,t}	0.2744
P _{C,s}	0.5335	P' _{C,s}	0.5764
P _{d,C}	0.3031	P' _{d,C'}	0.2527
P _{e,d}	0.2383	P' _{e,d}	0.2362
P _{g,F}	0.5475	P' _{g,F'}	0.4859
P _{i,h}	0.7816	P' _{i,h}	0.7746

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0175	$\Delta P_{C,s}$	0.0080
$\Delta P_{F,e}$	-0.0025	$\Delta P_{g,F}$	-0.0091

热性质 Thermal Properties

T _g (°C)	669
T _s (°C)	707
T _{1014.5} (°C)	645
T ₁₀₁₃ (°C)	671
T _{107.6} (°C)	
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	65
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	72
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.799	0.639
2200	0.944	0.892
2000	0.980	0.961
1800	0.994	0.987
1600	0.998	0.996
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.998
550	0.998	0.997
500	0.998	0.997
480	0.997	0.994
460	0.996	0.993
440	0.993	0.986
420	0.991	0.983
400	0.986	0.972
390	0.981	0.962
380	0.973	0.946
370	0.955	0.912
360	0.926	0.857
350	0.882	0.778
340	0.819	0.670
330	0.733	0.538
320	0.629	0.396
310	0.495	0.245
300	0.407	0.166
290	0.307	0.094
280	0.192	0.037

色散公式常数 Constants of Dispersion

K1	1.03141200E+000
L1	3.95421684E-003
K2	9.85282242E-001
L2	1.86863132E-002
K3	1.17066000E+000
L3	8.11326750E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	2

折射率温度系数常数 Constants of dn/dt

D0	1.22E-06
D1	1.66E-08
D2	-2.94E-11
E0	5.17E-07
E1	4.19E-10
$\lambda_{TK}(\mu\text{m})$	0.196

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	692
FA	93
E(10 ⁷ Pa)	12169
G(10 ⁷ Pa)	4701
μ	0.294
B(10 ⁻¹² /Pa)	1.42

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.3	2.7	2.7	3.0	3.6	3.7
-40~-20	2.3	2.8	2.9	3.1	3.7	4.0
-20~0	2.3	3.0	3.1	3.3	3.7	4.1
0~20	2.4	3.0	3.2	3.3	3.7	4.3
20~40	2.6	3.3	3.4	3.7	4.0	4.5
40~60	2.8	3.5	3.6	4.0	4.4	5.0
60~80	3.1	3.6	3.9	4.1	4.7	5.1
80~100	3.4	3.7	4.0	4.3	4.8	5.3
100~120	3.4	3.8	4.2	4.3	4.9	5.3
120~140	3.5	4.0	4.3	4.5	5.0	5.5

着色度 Color Code

λ_{80}/λ_5	370/275
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.16
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退火增值系数 ECFA.

β	150
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备注 Remarks

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H-LaK54S

734515

nd=

vd= 51.49

nF-nc= 0.01426

ne=

ve= 51.25

nF-nc'= 0.01439

折射率 Refractive Index		
	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.69382
n _{1970.1}	1970.1	1.70124
n _{1529.6}	1529.6	1.70909
n _{1060.0}	1060.0	1.71725
n _t	1014.0	1.71819
n _s	852.1	1.72211
n _r	706.5	1.72724
nc	656.3	1.72969
nc'	643.9	1.73037
n _{He-Ne}	632.8	1.73101
n _D	589.3	1.73387
nd	587.6	1.73400
n _e	546.1	1.73740
n _F	486.1	1.74394
n _{F'}	480.0	1.74476
n _g	435.8	1.75177
n _h	404.7	1.75831
n _i	365.0	1.76954
n _{313.2}	313.2	1.79266
n _{302.2}	302.2	1.79959

相对部分色散 Relative Partial Dispersions			
P _{s,t}	0.2751	P' _{s,t}	0.2726
P _{C,s}	0.5315	P' _{C,s}	0.5743
P _{d,C}	0.3027	P' _{d,C'}	0.2522
P _{e,d}	0.2382	P' _{e,d}	0.2360
P _{g,F}	0.5495	P' _{g,F'}	0.4875
P _{i,h}	0.7875	P' _{i,h}	0.7802

内透射率 Internal Transmittance		
$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.810	0.650
2200	0.948	0.899
2000	0.981	0.962
1800	0.992	0.985
1600	0.998	0.997
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.998	0.997
800	0.998	0.996
700	0.997	0.995
650	0.997	0.994
600	0.997	0.994
550	0.997	0.994
500	0.996	0.992
480	0.995	0.990
460	0.993	0.987
440	0.992	0.984
420	0.989	0.979
400	0.984	0.969
390	0.978	0.957
380	0.969	0.938
370	0.951	0.905
360	0.924	0.853
350	0.880	0.780
340	0.820	0.670
330	0.730	0.530
320	0.620	0.390
310	0.490	0.240
300	0.350	0.120
290	0.200	0.040
280		

异常色散 Abnormal Dispersions			
$\Delta P_{C,t}$	0.0177	$\Delta P_{C,s}$	0.0080
$\Delta P_{F,e}$	-0.0024	$\Delta P_{g,F}$	-0.0086

热性质 Thermal Properties	
T _g (°C)	639
T _s (°C)	676
T _{1014.5} (°C)	597
T ₁₀₁₃ (°C)	626
T _{107.6} (°C)	729
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	54
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	74
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

色散公式常数 Constants of Dispersion	
K1	1.20772900E+000
L1	1.76389161E-002
K2	7.37418354E-001
L2	6.66516018E-004
K3	1.35749000E+000
L3	9.69938810E+001

化学性质 Chemical Properties	
	Grade
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt	
D0	5.91E-06
D1	1.71E-08
D2	-2.96E-11
E0	5.65E-07
E1	5.05E-10
$\lambda_{TK}(\mu\text{m})$	0.196

机械性质 Mechanical Properties	
Hk(10 ⁷ Pa)	770
FA	61
E(10 ⁷ Pa)	11387
G(10 ⁷ Pa)	4401
μ	0.294
B(10 ⁻¹² /Pa)	1.93

折射率温度系数 Temperature Coefficients of Refractive Index						
温度范围(°C)	dn/dt relative (10 ⁻⁶ /°C)					
Rang of Temperature	t	C'	d	e	F'	g
-60~-40	4.7	5.2	5.4	5.6	6.1	6.6
-40~-20	4.8	5.3	5.6	5.7	6.3	6.8
-20~0	5.1	5.4	5.7	5.9	6.5	7.0
0~20	5.4	5.8	6.0	6.4	6.7	7.4
20~40	5.5	6.1	6.4	6.7	7.1	7.6
40~60	5.6	6.2	6.5	6.7	7.2	7.7
60~80	5.6	6.2	6.5	6.7	7.2	7.7
80~100	5.8	6.5	6.6	7.0	7.5	8.0
100~120	5.9	6.7	6.9	7.3	7.7	8.4
120~140	6.3	7.1	7.5	7.6	8.3	8.9

着色度 Color Code	
λ_{80}/λ_5	365/275
λ_{70}/λ_5	

其他性质 Other Properties	
$\rho(\text{g}/\text{cm}^3)$	4.01

退火增值系数 ECFA.	
β	170

备注 Remarks	



H-LaK59S

691548

nd=

vd= 54.82

nF-nC= 0.01261

ne=

ve= 54.56

nF-nC'= 0.01272

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.65639
n _{1970.1}	1970.1	1.66263
n _{1529.6}	1529.6	1.66926
n _{1060.0}	1060.0	1.67624
n _t	1014.0	1.67706
n _s	852.1	1.68049
n _r	706.5	1.68502
n _C	656.3	1.68718
n _{C'}	643.9	1.68779
n _{He-Ne}	632.8	1.68835
n _D	589.3	1.69089
n _d	587.6	1.69100
n _e	546.1	1.69401
n _F	486.1	1.69979
n _{F'}	480.0	1.70051
n _g	435.8	1.70668
n _h	404.7	1.71243
n _i	365.0	1.72226
n _{313.2}	313.2	1.74246
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2723	P' _{s,t}	0.2698
P _{C,s}	0.5309	P' _{C,s}	0.5739
P _{d,C}	0.3030	P' _{d,C'}	0.2526
P _{e,d}	0.2384	P' _{e,d}	0.2362
P _{g,F}	0.5471	P' _{g,F'}	0.4854
P _{i,h}	0.7799	P' _{i,h}	0.7728

内透射率 Internal Transmittance

λ (nm)	τ 5mm	τ 10mm
2400	0.812	0.659
2200	0.926	0.858
2000	0.973	0.947
1800	0.987	0.975
1600	0.995	0.990
1400	0.996	0.993
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.996
650	0.998	0.996
600	0.997	0.995
550	0.997	0.995
500	0.997	0.995
480	0.996	0.993
460	0.995	0.991
440	0.993	0.987
420	0.992	0.985
400	0.986	0.972
390	0.978	0.956
380	0.963	0.928
370	0.933	0.871
360	0.884	0.781
350	0.800	0.640
340	0.676	0.457
330	0.521	0.271
320	0.352	0.124
310	0.207	0.043
300		
290		
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0014	$\Delta P_{C,s}$	-0.0004
$\Delta P_{F,e}$	-0.0012	$\Delta P_{g,F}$	-0.0052

热性质 Thermal Properties

T _g (°C)	632
T _s (°C)	661
T _{1014.5} (°C)	594
T ₁₀₁₃ (°C)	616
T _{107.6} (°C)	709
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	82
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	95
$\lambda(W/m\cdot K)$	

色散公式常数 Constants of Dispersion

K1	1.63613200E+000
L1	8.69769789E-003
K2	1.69161648E-001
L2	2.95057148E-002
K3	9.29984689E-001
L3	8.24994050E+001

化学性质 Chemical Properties

Grade	
DW	3
DA	4
CR	3
RC(S)	1
RA(S)	5

折射率温度系数常数 Constants of dn/dt

D0	-5.25E-06
D1	1.39E-08
D2	-3.66E-11
E0	5.03E-07
E1	5.22E-10
$\lambda_{TK}(\mu m)$	0.184

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	537
FA	161
E(10 ⁷ Pa)	9378
G(10 ⁷ Pa)	3623
μ	0.294
B(10 ⁻¹² /Pa)	1.52

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-1.3	-0.7	-0.8	-0.5	-0.3	0.1
-40~-20	-1.2	-0.6	-0.5	-0.3	-0.1	0.5
-20~0	-1.4	-0.8	-0.8	-0.5	-0.4	0.1
0~20	-1.1	-0.7	-0.4	-0.4	-0.2	0.3
20~40	-0.9	-0.5	-0.3	-0.1	0.0	0.6
40~60	-0.9	-0.5	-0.2	-0.1	0.4	0.6
60~80	-0.8	-0.3	-0.2	0.0	0.5	0.8
80~100	-0.8	-0.2	-0.1	0.1	0.7	1.1
100~120	-0.7	-0.2	0.0	0.2	0.8	1.2
120~140	-0.8	-0.5	-0.2	0.1	0.4	0.9

着色度 Color Code

$\lambda_{80/\lambda 5}$	375/305
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(g/cm^3)$	3.94
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退火增值系数 ECFA.

β	110
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备注 Remarks

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H-LaK61S

741526

nd=

vd= 52.64

nF-nc= 0.01408

ne=

ve= 52.41

nF-nc'= 0.01420

折射率 Refractive Index

	$\lambda(\text{nm})$	
n2325.4	2325.4	
n1970.1	1970.1	
n1529.6	1529.6	
n1060.0	1060.0	
nt	1014.0	1.72533
ns	852.1	1.72921
nr	706.5	1.73431
nc	656.3	1.73673
nc'	643.9	1.73741
nHe-Ne	632.8	1.73804
nD	589.3	1.74087
nd	587.6	1.74100
ne	546.1	1.74435
nF	486.1	1.75080
nF'	480.0	1.75161
ng	435.8	1.75849
nh	404.7	1.76490
ni	365.0	1.77587
n313.2	313.2	
n302.2	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2756	P' _{s,t}	0.2732
P _{C,s}	0.5342	P' _{C,s}	0.5773
P _{d,C}	0.3034	P' _{d,C}	0.2528
P _{e,d}	0.2380	P' _{e,d}	0.2359
P _{g,F}	0.5464	P' _{g,F}	0.4845
P _{i,h}		P' _{i,h}	

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0155	$\Delta P_{C,s}$	0.0080
$\Delta P_{F,e}$	-0.0026	$\Delta P_{g,F}$	-0.0096

热性质 Thermal Properties

T _g (°C)	662
T _s (°C)	684
T _{1014.5} (°C)	623
T ₁₀₁₃ (°C)	652
T _{107.6} (°C)	739
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	60
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	72
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.810	0.660
2200	0.952	0.906
2000	0.983	0.967
1800	0.996	0.992
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.996
700	0.998	0.996
650	0.998	0.996
600	0.997	0.995
550	0.997	0.995
500	0.996	0.993
480	0.996	0.992
460	0.994	0.989
440	0.993	0.987
420	0.992	0.984
400	0.989	0.978
390	0.986	0.972
380	0.980	0.961
370	0.971	0.943
360	0.955	0.912
350	0.931	0.867
340	0.890	0.800
330	0.840	0.710
320	0.780	0.610
310	0.710	0.500
300	0.620	0.390
290	0.550	0.300
280	0.470	0.220

色散公式常数 Constants of Dispersion

A0	2.96883600E+000
A1	-1.37037477E-002
A2	2.24806890E-002
A3	1.30227068E-004
A4	3.52478346E-005
A5	-1.34827064E-006

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	3.47E-06
D1	1.55E-08
D2	-6.52E-11
E0	4.66E-07
E1	6.39E-10
$\lambda_{TK}(\mu\text{m})$	0.220

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	723
FA	100
E(10 ⁷ Pa)	11834
G(10 ⁷ Pa)	4562
μ	0.297
B(10 ⁻¹² /Pa)	1.61

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	3.5	3.9	4.1	4.3	4.5	5.2
-20~0	3.5	3.8	3.9	4.3	5.0	5.3
0~20	3.6	4.5	4.6	4.8	5.1	5.2
20~40	4.1	4.5	4.6	4.9	5.5	5.8
40~60	4.1	4.4	4.5	4.9	5.5	6.1
60~80	4.2	4.5	4.7	5.0	5.6	6.1
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	370/285
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.10
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退火增值系数 ECFA.

β	150
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备注 Remarks

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H-ZLaF2S

803468

nd=

vd= 46.76

nF-nc= 0.01717

ne=

ve= 46.51

nF-nc'= 0.01735

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.75924
n _{1970.1}	1970.1	1.76664
n _{1529.6}	1529.6	1.77459
n _{1060.0}	1060.0	1.78326
n _t	1014.0	1.78430
n _s	852.1	1.78875
n _r	706.5	1.79474
nc	656.3	1.79764
nc'	643.9	1.79845
n _{He-Ne}	632.8	1.79922
n _D	589.3	1.80264
nd	587.6	1.80279
n _e	546.1	1.80688
n _F	486.1	1.81480
n _{F'}	480.0	1.81580
n _g	435.8	1.82437
n _h	404.7	1.83243
n _i	365.0	1.84640
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2591	P' _{s,t}	0.2565
P _{C,s}	0.5177	P' _{C,s}	0.5593
P _{d,C}	0.3002	P' _{d,C'}	0.2501
P _{e,d}	0.2380	P' _{e,d}	0.2355
P _{g,F}	0.5572	P' _{g,F'}	0.4941
P _{i,h}	0.8140	P' _{i,h}	0.8055

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0103	$\Delta P_{C,s}$	0.0054
$\Delta P_{F,e}$	-0.0023	$\Delta P_{g,F}$	-0.0089

热性质 Thermal Properties

T _g (°C)	669
T _s (°C)	701
T _{1014.5} (°C)	633
T ₁₀₁₃ (°C)	659
T _{107.6} (°C)	742
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	67
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	75
$\lambda(W/m\cdot K)$	0.820

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.841	0.707
2200	0.955	0.912
2000	0.984	0.968
1800	0.995	0.989
1600	0.998	0.996
1400	0.999	0.997
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.997
800	0.999	0.997
700	0.999	0.997
650	0.999	0.997
600	0.999	0.997
550	0.998	0.996
500	0.998	0.996
480	0.996	0.993
460	0.994	0.989
440	0.990	0.981
420	0.987	0.974
400	0.978	0.956
390	0.968	0.937
380	0.952	0.907
370	0.924	0.853
360	0.876	0.767
350	0.801	0.642
340	0.685	0.469
330	0.517	0.267
320	0.286	0.082
310	0.155	0.024
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.76389300E+000
L1	8.42148904E-003
K2	4.07585293E-001
L2	3.04194298E-002
K3	1.27020200E+000
L3	8.95802610E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	2

折射率温度系数常数 Constants of dn/dt

D0	1.27E-06
D1	1.49E-08
D2	-3.26E-11
E0	6.27E-07
E1	5.37E-10
$\lambda_{TK}(\mu m)$	0.200

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	705
FA	96
E(10 ⁷ Pa)	12255
G(10 ⁷ Pa)	4720
μ	0.298
B(10 ⁻¹² /Pa)	1.29

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.5	3.1	3.3	3.5	4.1	4.4
-40~-20	2.3	3.3	3.4	3.5	4.1	4.5
-20~0	2.8	3.4	3.5	3.7	4.3	5.0
0~20	2.5	3.1	3.6	3.9	4.3	5.0
20~40	3.0	3.5	3.7	4.2	4.8	5.5
40~60	3.0	3.9	4.0	4.2	5.0	5.5
60~80	3.1	4.0	4.3	4.3	5.1	5.6
80~100	3.2	4.0	4.4	4.5	5.2	5.9
100~120	3.4	4.2	4.5	4.7	5.3	6.1
120~140	3.4	4.2	4.5	4.9	5.5	6.4

着色度 Color Code

$\lambda_{80/\lambda 5}$	385/315
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(g/cm^3)$	4.43
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退火增值系数 ECFA.

β	150
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备注 Remarks

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H-ZLaF3S

855366

nd=

vd= 36.59

nF-nc= 0.02338

ne=

ve= 36.34

nF-nc'= 0.02369

折射率 Refractive Index		
	λ (nm)	
n2325.4	2325.4	
n1970.1	1970.1	
n1529.6	1529.6	
n1060.0	1060.0	
nt	1014.0	1.83155
ns	852.1	1.83703
nr	706.5	1.84474
nc	656.3	1.84856
nc'	643.9	1.84964
nHe-Ne	632.8	1.85065
nD	589.3	1.85524
nd	587.6	1.85544
ne	546.1	1.86099
nF	486.1	1.87194
nF'	480.0	1.87333
ng	435.8	1.88546
nh	404.7	1.89718
ni	365.0	1.91836
n313.2	313.2	
n302.2	302.2	

相对部分色散 Relative Partial Dispersions			
P _{s,t}	0.2344	P' _{s,t}	0.2313
P _{C,s}	0.4931	P' _{C,s}	0.5322
P _{d,C}	0.2943	P' _{d,C}	0.2448
P _{e,d}	0.2373	P' _{e,d}	0.2342
P _{g,F}	0.5781	P' _{g,F}	0.5118
P _{i,h}		P' _{i,h}	

内透射率 Internal Transmittance		
λ (nm)	τ 5mm	τ 10mm
2400	0.860	0.740
2200	0.962	0.926
2000	0.987	0.975
1800	0.998	0.996
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.997
700	0.998	0.996
650	0.998	0.996
600	0.997	0.994
550	0.996	0.992
500	0.992	0.984
480	0.989	0.978
460	0.984	0.969
440	0.978	0.957
420	0.967	0.936
400	0.941	0.886
390	0.913	0.834
380	0.860	0.740
370	0.730	0.540
360	0.470	0.220
350	0.140	0.020
340		
330		
320		
310		
300		
290		
280		

异常色散 Abnormal Dispersions			
$\Delta P_{C,t}$	0.0089	$\Delta P_{C,s}$	0.0049
$\Delta P_{F,e}$	-0.0013	$\Delta P_{g,F}$	-0.0053

热性质 Thermal Properties	
T _g (°C)	644
T _s (°C)	679
T _{1014.5} (°C)	616
T ₁₀₁₃ (°C)	644
T _{107.6} (°C)	735
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	60
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	74
$\lambda(W/m\cdot K)$	

色散公式常数 Constants of Dispersion	
A0	3.33260600E+000
A1	-1.42217316E-002
A2	3.66299972E-002
A3	1.02037913E-003
A4	-3.17481317E-006
A5	5.76556386E-006

化学性质 Chemical Properties	
	Grade
DW	1
DA	5
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt	
D0	3.10E-06
D1	1.77E-08
D2	-9.07E-11
E0	8.88E-07
E1	3.04E-10
$\lambda_{TK}(\mu m)$	0.222

机械性质 Mechanical Properties	
Hk(10 ⁷ Pa)	681
FA	98
E(10 ⁷ Pa)	12068
G(10 ⁷ Pa)	4663
μ	0.294
B(10 ⁻¹² /Pa)	1.69

折射率温度系数 Temperature Coefficients of Refractive Index						
温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	q
-60~-40						
-40~-20	3.6	4.5	5.0	5.1	6.1	6.7
-20~0	3.7	4.9	5.2	5.6	6.4	7.9
0~20	4.0	4.9	6.0	6.2	7.1	8.0
20~40	4.4	5.3	5.8	6.2	7.3	8.3
40~60	4.6	5.7	5.9	6.2	7.3	8.6
60~80	4.4	5.9	6.2	6.9	7.4	8.6
80~100						
100~120						
120~140						

着色度 Color Code	
λ_{80}/λ_5	
λ_{70}/λ_5	390/350

其他性质 Other Properties	
$\rho(g/cm^3)$	4.50

退火增值系数 ECFA	
β	170

备注 Remarks	



H-ZLaF4LS

911353

nd=

vd= 35.25

nF-nc= 0.02584

ne=

ve= 35.00

nF-nc'= 0.02620

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.85898
n _{1970.1}	1970.1	1.86584
n _{1529.6}	1529.6	1.87368
n _{1060.0}	1060.0	1.88352
n _t	1014.0	1.88483
n _s	852.1	1.89068
n _r	706.5	1.89905
nc	656.3	1.90324
nc'	643.9	1.90443
n _{He-Ne}	632.8	1.90554
n _D	589.3	1.91059
nd	587.6	1.91082
n _e	546.1	1.91694
n _F	486.1	1.92908
n _{F'}	480.0	1.93062
n _g	435.8	1.94415
n _h	404.7	1.95722
n _i	365.0	1.98088
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2267	P' _{s,t}	0.2236
P _{C,s}	0.4858	P' _{C,s}	0.5245
P _{d,C}	0.2935	P' _{d,C'}	0.2441
P _{e,d}	0.2370	P' _{e,d}	0.2337
P _{g,F}	0.5832	P' _{g,F'}	0.5163
P _{i,h}	0.9157	P' _{i,h}	0.9032

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0001	$\Delta P_{C,s}$	0.0007
$\Delta P_{F,e}$	-0.0008	$\Delta P_{g,F}$	-0.0024

热性质 Thermal Properties

T _g (°C)	714
T _s (°C)	750
T _{1014.5} (°C)	
T ₁₀₁₃ (°C)	
T _{107.6} (°C)	
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	69
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	88
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.919	0.845
2200	0.977	0.954
2000	0.990	0.980
1800	0.996	0.993
1600	0.998	0.997
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.998	0.997
850	0.998	0.997
800	0.996	0.992
700	0.996	0.992
650	0.995	0.990
600	0.996	0.992
550	0.994	0.988
500	0.988	0.976
480	0.982	0.965
460	0.975	0.950
440	0.963	0.928
420	0.947	0.896
400	0.906	0.821
390	0.865	0.748
380	0.793	0.629
370	0.660	0.435
360	0.418	0.175
350		
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	2.21255100E+000
L1	1.18172551E-002
K2	3.12542647E-001
L2	4.95862626E-002
K3	1.56862400E+000
L3	1.15526489E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	1
CR	1
RC(S)	1
RA(S)	2

折射率温度系数常数 Constants of dn/dt

D0	1.14E-06
D1	1.37E-08
D2	-2.92E-11
E0	8.94E-07
E1	8.60E-10
$\lambda_{TK}(\mu\text{m})$	0.239

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	728
FA	92
E(10 ⁷ Pa)	12695
G(10 ⁷ Pa)	4868
μ	0.304
B(10 ⁻¹² /Pa)	1.14

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.6	3.7	4.2	4.5	5.6	6.5
-40~-20	2.7	3.8	4.3	4.7	5.7	6.9
-20~0	3.0	4.0	4.4	4.8	5.8	7.0
0~20	3.2	4.1	4.4	5.1	6.0	7.2
20~40	3.2	4.4	4.8	5.3	6.4	7.6
40~60	3.4	4.7	5.1	5.5	6.6	7.9
60~80	3.5	4.9	5.3	5.8	7.0	8.2
80~100	3.6	4.9	5.4	5.9	7.3	8.6
100~120	3.7	4.9	5.6	6.1	7.4	8.8
120~140	3.7	5.1	5.7	6.3	7.5	9.0

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	400/355

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.84
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退火增值系数 ECFA.

β	130
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备注 Remarks

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H-ZLaF50S

804466

nd=

vd= 46.57

nF-nc= 0.01726

ne=

ve= 46.32

nF-nc'= 0.01745

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.76090
n _{1970.1}	1970.1	1.76809
n _{1529.6}	1529.6	1.77587
n _{1060.0}	1060.0	1.78444
n _t	1014.0	1.78548
n _s	852.1	1.78991
n _r	706.5	1.79591
nc	656.3	1.79882
nc'	643.9	1.79964
n _{He-Ne}	632.8	1.80041
n _D	589.3	1.80385
nd	587.6	1.80400
n _e	546.1	1.80811
n _F	486.1	1.81608
n _{F'}	480.0	1.81709
n _g	435.8	1.82571
n _h	404.7	1.83381
n _i	365.0	1.84783
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2571	P' _{s,t}	0.2544
P _{C,s}	0.5160	P' _{C,s}	0.5576
P _{d,C}	0.3000	P' _{d,C'}	0.2499
P _{e,d}	0.2380	P' _{e,d}	0.2355
P _{g,F}	0.5576	P' _{g,F'}	0.4943
P _{i,h}	0.8121	P' _{i,h}	0.8036

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0074	$\Delta P_{C,s}$	0.0042
$\Delta P_{F,e}$	-0.0022	$\Delta P_{g,F}$	-0.0088

热性质 Thermal Properties

T _g (°C)	669
T _s (°C)	701
T _{1014.5} (°C)	633
T ₁₀₁₃ (°C)	659
T _{107.6} (°C)	742
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	67
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	75
$\lambda(\text{W}/\text{m}\cdot\text{K})$	0.820

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.852	0.726
2200	0.927	0.860
2000	0.960	0.922
1800	0.976	0.953
1600	0.985	0.970
1400	0.991	0.983
1200	0.995	0.990
1060	0.996	0.993
1000	0.997	0.995
950	0.998	0.996
900	0.998	0.996
850	0.998	0.997
800	0.998	0.996
700	0.998	0.996
650	0.998	0.996
600	0.998	0.996
550	0.998	0.996
500	0.997	0.994
480	0.996	0.993
460	0.995	0.991
440	0.993	0.986
420	0.990	0.981
400	0.985	0.970
390	0.980	0.960
380	0.971	0.943
370	0.954	0.910
360	0.926	0.857
350	0.880	0.775
340	0.805	0.648
330	0.677	0.459
320	0.451	0.203
310	0.158	0.025
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.22239200E+000
L1	4.45444509E-003
K2	9.52859998E-001
L2	2.29973998E-002
K3	1.37994100E+000
L3	9.91991270E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	2

折射率温度系数常数 Constants of dn/dt

D0	1.15E-06
D1	1.32E-08
D2	-1.72E-11
E0	6.09E-07
E1	4.60E-10
$\lambda_{TK}(\mu\text{m})$	0.211

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	705
FA	96
E(10 ⁷ Pa)	12255
G(10 ⁷ Pa)	4720
μ	0.298
B(10 ⁻¹² /Pa)	1.29

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.6	2.9	3.0	3.6	4.0	4.5
-40~-20	2.6	3.3	3.5	3.7	4.2	4.6
-20~0	2.6	3.2	3.7	3.9	4.3	4.8
0~20	2.6	3.5	3.7	3.9	4.5	5.3
20~40	2.7	3.5	3.8	4.1	4.6	5.4
40~60	2.7	3.6	3.9	4.2	4.7	5.5
60~80	2.9	3.8	4.0	4.3	4.8	5.6
80~100	3.2	3.9	4.1	4.3	5.2	5.8
100~120	3.7	4.0	4.2	4.5	5.4	5.8
120~140	3.8	4.5	4.6	5.1	5.7	6.2

着色度 Color Code

λ_{80}/λ_5	380/310
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.43
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退火增值系数 ECFA.

β	150
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备注 Remarks

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H-ZLaF51S

805396

nd=

vd= 39.64

nF-nc= 0.02030

ne=

ve= 39.38

nF-nc'= 0.02055

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.75846
n _{1970.1}	1970.1	1.76556
n _{1529.6}	1529.6	1.77335
n _{1060.0}	1060.0	1.78232
n _t	1014.0	1.78344
n _s	852.1	1.78835
n _r	706.5	1.79514
nc	656.3	1.79849
nc'	643.9	1.79943
n _{He-Ne}	632.8	1.80032
n _D	589.3	1.80432
nd	587.6	1.80450
n _e	546.1	1.80932
n _F	486.1	1.81879
n _{F'}	480.0	1.81999
n _g	435.8	1.83042
n _h	404.7	1.84041
n _i	365.0	1.85819
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2417	P' _{s,t}	0.2387
P _{C,s}	0.4996	P' _{C,s}	0.5395
P _{d,C}	0.2962	P' _{d,C'}	0.2465
P _{e,d}	0.2373	P' _{e,d}	0.2344
P _{g,F}	0.5732	P' _{g,F'}	0.5078
P _{i,h}	0.8760	P' _{i,h}	0.8652

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0083	$\Delta P_{C,s}$	0.0042
$\Delta P_{F,e}$	-0.0015	$\Delta P_{g,F}$	-0.0050

热性质 Thermal Properties

T _g (°C)	601
T _s (°C)	631
T _{1014.5} (°C)	561
T ₁₀₁₃ (°C)	587
T _{107.6} (°C)	680
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	57
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	68
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.858	0.737
2200	0.960	0.922
2000	0.985	0.970
1800	0.995	0.990
1600	0.998	0.996
1400	0.998	0.997
1200	0.999	0.999
1060	0.999	0.999
1000	0.999	0.999
950	0.999	0.999
900	0.999	0.999
850	0.999	0.999
800	0.998	0.997
700	0.998	0.997
650	0.998	0.997
600	0.998	0.997
550	0.998	0.997
500	0.998	0.997
480	0.996	0.993
460	0.996	0.993
440	0.991	0.982
420	0.985	0.970
400	0.971	0.943
390	0.953	0.910
380	0.930	0.860
370	0.866	0.750
360	0.730	0.530
350	0.450	0.200
340	0.140	0.020
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.22431100E+000
L1	9.12451860E+001
K2	3.02590311E-001
L2	4.26067673E-002
K3	1.86090700E+000
L3	9.87031590E-003

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	8.54E-06
D1	1.58E-08
D2	-6.65E-11
E0	6.98E-07
E1	1.18E-09
$\lambda_{TK}(\mu\text{m})$	0.253

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	664
FA	101
E(10 ⁷ Pa)	11142
G(10 ⁷ Pa)	4263
μ	0.307
B(10 ⁻¹² /Pa)	2.23

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	6.3	7.4	7.6	8.2	8.6	9.2
-20~0	7.1	7.9	8.1	8.3	9.2	10.2
0~20	7.3	8.1	8.6	8.8	9.8	10.7
20~40	7.3	8.2	8.6	9.0	9.9	10.8
40~60	7.6	8.4	8.8	9.1	10.1	11.4
60~80	7.8	8.7	9.2	10.3	10.7	11.7
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_{5}	410/345
λ_{70}/λ_{5}	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.41
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退火增值系数 ECFA.

β	150
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备注 Remarks

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H-ZLaF52S

806410

nd=

vd= 40.95

nF-nc= 0.01969

ne=

ve= 40.69

nF-nc'= 0.01992

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	
n _{1970.1}	1970.1	
n _{1529.6}	1529.6	
n _{1060.0}	1060.0	
n _t	1014.0	1.78556
n _s	852.1	1.79035
n _r	706.5	1.79699
nc	656.3	1.80025
nc'	643.9	1.80117
n _{He-Ne}	632.8	1.80204
n _D	589.3	1.80592
nd	587.6	1.80610
n _e	546.1	1.81077
n _F	486.1	1.81994
n _{F'}	480.0	1.82110
n _g	435.8	1.83118
n _h	404.7	1.84077
n _i	365.0	1.85778
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2433	P' _{s,t}	0.2404
P _{C,s}	0.5029	P' _{C,s}	0.5431
P _{d,C}	0.2970	P' _{d,C'}	0.2474
P _{e,d}	0.2372	P' _{e,d}	0.2344
P _{g,F}	0.5710	P' _{g,F'}	0.5059
P _{i,h}		P' _{i,h}	

内透射率 Internal Transmittance

λ (nm)	τ 5mm	τ 10mm
2400	0.849	0.720
2200	0.956	0.913
2000	0.983	0.967
1800	0.994	0.988
1600	0.998	0.996
1400	0.998	0.997
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.996
700	0.996	0.992
650	0.996	0.992
600	0.996	0.993
550	0.997	0.994
500	0.995	0.991
480	0.994	0.988
460	0.991	0.983
440	0.987	0.975
420	0.984	0.968
400	0.973	0.947
390	0.961	0.923
380	0.938	0.880
370	0.892	0.795
360	0.789	0.622
350	0.566	0.320
340	0.219	0.048
330		
320		
310		
300		
290		
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0070	$\Delta P_{C,s}$	0.0044
$\Delta P_{F,e}$	-0.0014	$\Delta P_{g,F}$	-0.0050

热性质 Thermal Properties

T _g (°C)	597
T _s (°C)	630
T _{1014.5} (°C)	557
T ₁₀₁₃ (°C)	585
T _{107.6} (°C)	676
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	59
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	73
$\lambda(W/m\cdot K)$	

色散公式常数 Constants of Dispersion

A0	3.16943500E+000
A1	-1.24379136E-002
A2	3.22101153E-002
A3	1.81456315E-004
A4	8.90653027E-005
A5	-1.91933168E-006

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	7.46E-06
D1	1.78E-08
D2	-1.51E-10
E0	7.13E-07
E1	6.48E-10
$\lambda_{TK}(\mu m)$	0.252

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	650
FA	98
E(10 ⁷ Pa)	11146
G(10 ⁷ Pa)	4263
μ	0.307
B(10 ⁻¹² /Pa)	2.12

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	6.0	6.2	6.6	6.5	7.6	8.4
-20~0	5.8	7.3	7.4	8.0	8.6	9.3
0~20	7.2	6.4	8.0	8.2	9.1	10.3
20~40	6.4	7.7	7.8	8.3	9.6	10.2
40~60	6.7	7.9	8.2	8.7	9.2	10.2
60~80	7.0	7.9	8.4	8.3	9.6	10.5
80~100						
100~120						
120~140						

着色度 Color Code

$\lambda_{80/\lambda 5}$	395/340
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(g/cm^3)$	4.43
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退火增值系数 ECFA.

β	140
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备注 Remarks

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H-ZLaF53A

834372

nd=

vd= 37.21

nF-nc= 0.02241

ne=

ve= 36.98

nF-nc'= 0.02270

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	
n _{1970.1}	1970.1	
n _{1529.6}	1529.6	
n _{1060.0}	1060.0	
n _t	1014.0	1.81118
n _s	852.1	1.81638
n _r	706.5	1.82374
n _c	656.3	1.82739
n _{c'}	643.9	1.82843
n _{He-Ne}	632.8	1.82940
n _D	589.3	1.83380
n _d	587.6	1.83400
n _e	546.1	1.83930
n _F	486.1	1.84980
n _{F'}	480.0	1.85113
n _g	435.8	1.86276
n _h	404.7	1.87392
n _i	365.0	1.89397
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}		P' _{s,t}	
P _{C,s}		P' _{C,s}	
P _{d,C}	0.2949	P' _{d,C'}	0.2454
P _{e,d}	0.2365	P' _{e,d}	0.2335
P _{g,F}	0.5782	P' _{g,F'}	0.5124
P _{i,h}		P' _{i,h}	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.860	0.740
2200	0.960	0.921
2000	0.986	0.972
1800	0.997	0.994
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.997
700	0.998	0.996
650	0.997	0.995
600	0.997	0.994
550	0.996	0.992
500	0.992	0.985
480	0.990	0.980
460	0.986	0.972
440	0.980	0.961
420	0.971	0.943
400	0.949	0.901
390	0.925	0.855
380	0.880	0.770
370	0.790	0.630
360	0.610	0.370
350	0.320	0.100
340		
330		
320		
310		
300		
290		
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$		$\Delta P_{C,s}$	
$\Delta P_{F,e}$	-0.0008	$\Delta P_{g,F}$	-0.0041

热性质 Thermal Properties

T _g (°C)	670
T _s (°C)	712
T _{1014.5} (°C)	550
T ₁₀₁₃ (°C)	579
T _{107.6} (°C)	682
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	65
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	77
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

色散公式常数 Constants of Dispersion

A0	3.25780700E+000
A1	-1.23377852E-002
A2	3.55171673E-002
A3	7.05690298E-004
A4	4.34987378E-005
A5	1.95613643E-006

化学性质 Chemical Properties

Grade	
DW	1
DA	2
CR	
RC(S)	1
RA(S)	4

折射率温度系数常数 Constants of dn/dt

D0	7.29E-07
D1	9.31E-09
D2	-3.94E-11
E0	1.14E-06
E1	2.56E-09
$\lambda_{TK}(\mu\text{m})$	0.077

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	602
FA	102
E(10 ⁷ Pa)	10621
G(10 ⁷ Pa)	4070
μ	0.305
B(10 ⁻¹² /Pa)	

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	2.4	3.3	3.8	4	4.4	5.7
-20~0	3.3	3.4	3.9	4.2	5.3	6.1
0~20	3.3	3.6	4.1	4.4	5.4	6.2
20~40	2.8	4.0	4.4	4.7	5.8	6.6
40~60	2.9	4.2	4.4	4.9	5.9	6.9
60~80	3.3	4.5	4.8	5.2	6.2	7.3
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	390/350

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.25
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退火增值系数 ECFA.

β	170
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备注 Remarks

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H-ZLaF53B

834372

nd=

vd= 37.21

nF-nc= 0.02241

ne=

ve= 36.96

nF-nc'= 0.02271

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.78697
n _{1970.1}	1970.1	1.79358
n _{1529.6}	1529.6	1.80100
n _{1060.0}	1060.0	1.81001
n _t	1014.0	1.81118
n _s	852.1	1.81638
n _r	706.5	1.82374
nc	656.3	1.82740
nc'	643.9	1.82843
n _{He-Ne}	632.8	1.82941
n _D	589.3	1.83380
nd	587.6	1.83400
n _e	546.1	1.83932
n _F	486.1	1.84981
n _{F'}	480.0	1.85114
n _g	435.8	1.86277
n _h	404.7	1.87395
n _i	365.0	1.89400
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2322	P' _{s,t}	0.2292
P _{C,s}	0.4913	P' _{C,s}	0.5305
P _{d,C}	0.2947	P' _{d,C'}	0.2452
P _{e,d}	0.2372	P' _{e,d}	0.2341
P _{g,F}	0.5783	P' _{g,F'}	0.5121
P _{i,h}	0.8944	P' _{i,h}	0.8828

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0019	$\Delta P_{C,s}$	0.0016
$\Delta P_{F,e}$	-0.0011	$\Delta P_{g,F}$	-0.0040

热性质 Thermal Properties

T _g (°C)	569
T _s (°C)	604
T _{1014.5} (°C)	520
T ₁₀₁₃ (°C)	552
T _{107.6} (°C)	661
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	59
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	72
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.901	0.811
2200	0.973	0.947
2000	0.990	0.980
1800	0.997	0.995
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.997	0.995
700	0.996	0.993
650	0.996	0.993
600	0.995	0.990
550	0.995	0.990
500	0.993	0.987
480	0.991	0.982
460	0.988	0.976
440	0.981	0.963
420	0.975	0.951
400	0.952	0.906
390	0.928	0.861
380	0.884	0.781
370	0.792	0.628
360	0.611	0.373
350	0.283	0.080
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	3.02813828E-001
L1	4.55920249E-002
K2	1.25522400E+000
L2	9.99412230E+001
K3	1.95575800E+000
L3	1.08167119E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	2
CR	1
RC(S)	1
RA(S)	4

折射率温度系数常数 Constants of dn/dt

D0	9.87E-06
D1	1.65E-08
D2	-3.22E-11
E0	8.90E-07
E1	1.12E-09
$\lambda_{TK}(\mu\text{m})$	0.243

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	613
FA	93
E(10 ⁷ Pa)	11043
G(10 ⁷ Pa)	4204
μ	0.313
B(10 ⁻¹² /Pa)	2.47

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	7.9	8.8	9.2	9.8	10.4	11.5
-40~-20	8.2	9.0	9.4	9.9	10.6	11.9
-20~0	8.2	9.2	9.5	9.9	11.0	12.3
0~20	8.3	9.4	9.8	10.2	11.5	12.6
20~40	8.5	9.6	10.3	10.8	11.9	13.0
40~60	8.7	10.2	10.6	11.1	12.3	13.6
60~80	9.0	10.4	10.7	11.2	12.3	13.9
80~100	9.1	10.5	10.9	11.4	12.6	14.0
100~120	9.3	10.7	11.2	11.7	13.0	14.4
120~140	9.5	11.0	11.7	12.1	13.5	14.9

着色度 Color Code

λ_{80}/λ_5	420/345
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.54
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退火增值系数 ECFA.

β	100
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备注 Remarks

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H-ZLaF55D

835427

nd=

vd= 42.73

nF-nc= 0.01954

ne=

ve= 42.48

nF-nc'= 0.01976

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.78918
n _{1970.1}	1970.1	1.79635
n _{1529.6}	1529.6	1.80419
n _{1060.0}	1060.0	1.81312
n _t	1014.0	1.81424
n _s	852.1	1.81907
n _r	706.5	1.82573
nc	656.3	1.82898
nc'	643.9	1.82990
n _{He-Ne}	632.8	1.83076
n _D	589.3	1.83464
nd	587.6	1.83481
n _e	546.1	1.83946
n _F	486.1	1.84852
n _{F'}	480.0	1.84967
n _g	435.8	1.85955
n _h	404.7	1.86891
n _i	365.0	1.88533
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2475	P' _{s,t}	0.2447
P _{C,s}	0.5072	P' _{C,s}	0.5479
P _{d,C}	0.2982	P' _{d,C'}	0.2483
P _{e,d}	0.2377	P' _{e,d}	0.2350
P _{g,F}	0.5643	P' _{g,F'}	0.5001
P _{i,h}	0.8405	P' _{i,h}	0.8309

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0071	$\Delta P_{C,s}$	0.0044
$\Delta P_{F,e}$	-0.0022	$\Delta P_{g,F}$	-0.0086

热性质 Thermal Properties

T _g (°C)	692
T _s (°C)	722
T _{1014.5} (°C)	645
T ₁₀₁₃ (°C)	674
T _{107.6} (°C)	771
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	64
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	81
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.869	0.756
2200	0.965	0.931
2000	0.986	0.972
1800	0.996	0.991
1600	0.999	0.997
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.998
550	0.999	0.998
500	0.997	0.995
480	0.996	0.993
460	0.994	0.989
440	0.991	0.982
420	0.987	0.974
400	0.978	0.957
390	0.969	0.939
380	0.956	0.913
370	0.929	0.863
360	0.888	0.788
350	0.817	0.668
340	0.691	0.478
330	0.468	0.219
320	0.170	0.029
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	2.27765277E-001
L1	4.12221849E-002
K2	2.04686900E+000
L2	1.07489498E-002
K3	1.20888900E+000
L3	8.78518980E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	2
CR	1
RC(S)	1
RA(S)	2

折射率温度系数常数 Constants of dn/dt

D0	1.05E-06
D1	1.59E-08
D2	-2.67E-11
E0	6.94E-07
E1	2.64E-10
$\lambda_{TK}(\mu\text{m})$	0.221

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	684
FA	97
E(10 ⁷ Pa)	12359
G(10 ⁷ Pa)	4755
μ	0.299
B(10 ⁻¹² /Pa)	1.26

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.2	3.2	3.6	3.7	4.3	5.1
-40~-20	2.3	3.4	3.7	3.8	4.5	5.2
-20~0	2.4	3.4	3.7	3.9	4.6	5.4
0~20	2.5	3.5	3.7	4.1	4.8	5.5
20~40	2.9	3.6	4.0	4.3	5.2	5.7
40~60	3.2	4.0	4.2	4.6	5.3	6.0
60~80	3.3	4.1	4.3	4.7	5.4	6.3
80~100	3.5	4.2	4.5	4.8	5.6	6.6
100~120	3.5	4.3	4.6	4.9	5.8	6.9
120~140	3.6	4.5	4.8	5.1	6.1	7.1

着色度 Color Code

λ_{80}/λ_5	400/320
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.54
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退火增值系数 ECFA.

β	140
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备注 Remarks

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H-ZLaF56S

806333

nd=
ne=

vd= 33.27
ve= 33.03

nF-nc= 0.02423
nF'-nc'= 0.02458

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	
n _{1970.1}	1970.1	
n _{1529.6}	1529.6	
n _{1060.0}	1060.0	
n _t	1014.0	1.78189
n _s	852.1	1.78734
n _r	706.5	1.79513
nc	656.3	1.79902
nc'	643.9	1.80012
n _{He-Ne}	632.8	1.80117
n _D	589.3	1.80589
nd	587.6	1.80610
n _e	546.1	1.81184
n _F	486.1	1.82325
n _{F'}	480.0	1.82470
n _g	435.8	1.83755
n _h	404.7	1.85016
n _i	365.0	1.87351
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2241	P' _{s,t}	0.2209
P _{C,s}	0.4829	P' _{C,s}	0.5208
P _{d,C}	0.2924	P' _{d,C'}	0.2431
P _{e,d}	0.2368	P' _{e,d}	0.2334
P _{g,F}	0.5903	P' _{g,F'}	0.5229
P _{i,h}		P' _{i,h}	

内透射率 Internal Transmittance

λ (nm)	τ 5mm	τ 10mm
2400	0.905	0.820
2200	0.959	0.921
2000	0.985	0.971
1800	0.993	0.985
1600	0.997	0.994
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.997	0.995
700	0.997	0.995
650	0.997	0.995
600	0.997	0.995
550	0.996	0.993
500	0.993	0.986
480	0.990	0.981
460	0.986	0.972
440	0.980	0.961
420	0.971	0.942
400	0.945	0.893
390	0.912	0.831
380	0.842	0.709
370	0.675	0.455
360	0.333	0.111
350		
340		
330		
320		
310		
300		
290		
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0040	$\Delta P_{C,s}$	0.0025
$\Delta P_{F,e}$	-0.0005	$\Delta P_{g,F}$	0.0013

热性质 Thermal Properties

T _g (°C)	659
T _s (°C)	707
T _{1014.5} (°C)	616
T ₁₀₁₃ (°C)	650
T _{107.6} (°C)	767
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	74
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	86
$\lambda(W/m\cdot K)$	

色散公式常数 Constants of Dispersion

A0	3.14933400E+000
A1	-1.11549301E-002
A2	3.75191607E-002
A3	7.87288824E-004
A4	2.97271199E-005
A5	7.44861563E-006

化学性质 Chemical Properties

	Grade
DW	1
DA	2
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	-9.87E-07
D1	1.97E-08
D2	-1.23E-10
E0	8.59E-07
E1	9.48E-10
$\lambda_{TK}(\mu m)$	0.252

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	582
FA	149
E(10 ⁷ Pa)	11594
G(10 ⁷ Pa)	4526
μ	0.281
B(10 ⁻¹² /Pa)	1.79

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	q
-60~-40						
-40~-20	0.6	1.2	1.6	2.1	3.0	3.7
-20~0	1.1	1.9	2.4	2.6	3.4	5.0
0~20	1.4	2.6	2.8	3.3	3.8	5.3
20~40	1.5	2.8	3.3	3.6	4.8	5.4
40~60	1.8	2.9	3.3	3.7	4.9	6.0
60~80	2.1	2.9	3.3	3.7	5.0	6.3
80~100						
100~120						
120~140						

着色度 Color Code

$\lambda_{80/\lambda 5}$	425/360
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(g/cm^3)$	3.70
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退火增值系数 ECFA.

β	170
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备注 Remarks

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H-ZLaF66S

801350

$n_d =$

$v_d = 34.97$

$n_F - n_C = 0.02291$

$n_e =$

$v_e = 34.71$

$n_F - n_C' = 0.02323$

折射率 Refractive Index

	$\lambda(\text{nm})$	
$n_{2325.4}$	2325.4	1.75372
$n_{1970.1}$	1970.1	1.76030
$n_{1529.6}$	1529.6	1.76772
$n_{1060.0}$	1060.0	1.77676
n_t	1014.0	1.77793
n_s	852.1	1.78317
n_r	706.5	1.79059
n_C	656.3	1.79429
$n_{C'}$	643.9	1.79534
$n_{\text{He-Ne}}$	632.8	1.79633
n_D	589.3	1.80080
n_d	587.6	1.80100
n_e	546.1	1.80642
n_F	486.1	1.81720
$n_{F'}$	480.0	1.81858
n_g	435.8	1.83066
n_h	404.7	1.84243
n_i	365.0	1.86400
$n_{313.2}$	313.2	
$n_{302.2}$	302.2	

相对部分色散 Relative Partial Dispersions

$P_{s,t}$	0.2285	$P'_{s,t}$	0.2253
$P_{C,s}$	0.4855	$P'_{C,s}$	0.5240
$P_{d,C}$	0.2929	$P'_{d,C'}$	0.2435
$P_{e,d}$	0.2367	$P'_{e,d}$	0.2334
$P_{g,F}$	0.5877	$P'_{g,F'}$	0.5202
$P_{i,h}$	0.9414	$P'_{i,h}$	0.9282

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.906	0.820
2200	0.964	0.929
2000	0.986	0.973
1800	0.994	0.988
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.998	0.997
800	0.998	0.996
700	0.997	0.995
650	0.997	0.994
600	0.996	0.992
550	0.994	0.988
500	0.988	0.976
480	0.984	0.968
460	0.979	0.959
440	0.972	0.944
420	0.960	0.921
400	0.926	0.857
390	0.892	0.795
380	0.814	0.662
370	0.635	0.403
360	0.381	0.145
350	0.077	0.006
340		
330		
320		
310		
300		
290		
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0031	$\Delta P_{C,s}$	0.0011
$\Delta P_{F,e}$	-0.0001	$\Delta P_{g,F}$	0.0016

热性质 Thermal Properties

$T_g(^{\circ}\text{C})$	657
$T_s(^{\circ}\text{C})$	705
$T_{1014.5(^{\circ}\text{C})}$	612
$T_{1013(^{\circ}\text{C})}$	645
$T_{107.6(^{\circ}\text{C})}$	764
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	79
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	93
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

色散公式常数 Constants of Dispersion

K_1	2.33018786E-001
L_1	5.37435412E-002
K_2	1.90660400E+000
L_2	1.14336573E-002
K_3	1.37147100E+000
L_3	1.10630882E+002

化学性质 Chemical Properties

	Grade
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D_0	-1.89E-06
D_1	1.64E-08
D_2	-1.41E-10
E_0	8.70E-07
E_1	1.01E-09
$\lambda_{TK}(\mu\text{m})$	0.245

机械性质 Mechanical Properties

$H_k(10^7\text{Pa})$	596
FA	204
$E(10^7\text{Pa})$	10980
$G(10^7\text{Pa})$	4268
μ	0.286
$B(10^{-12}/\text{Pa})$	1.69

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围($^{\circ}\text{C}$) Rang of Temperature	dn/dt relative ($10^{-6}/^{\circ}\text{C}$)					
	t	C'	d	e	F'	q
-60~-40						
-40~-20	-0.3	0.8	1.3	1.5	2.2	3.4
-20~0	0.8	1.3	1.7	2.1	3.3	4.0
0~20	1.0	2.0	2.3	2.6	3.7	4.6
20~40	1.0	2.1	2.4	3.1	3.7	5.1
40~60	1.1	2.1	2.6	3.1	3.8	5.1
60~80	1.2	2.1	3.0	3.1	4.4	5.3
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	425/355
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.81
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退火增值系数 ECFA.

β	170
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备注 Remarks

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H-ZLaF68A

883409

nd=

vd= 40.85

nF-nc= 0.02162

ne=

ve= 40.60

nF-nc'= 0.02188

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.83716
n _{1970.1}	1970.1	1.84353
n _{1529.6}	1529.6	1.85074
n _{1060.0}	1060.0	1.85957
n _t	1014.0	1.86072
n _s	852.1	1.86582
n _r	706.5	1.87302
nc	656.3	1.87658
nc'	643.9	1.87759
n _{He-Ne}	632.8	1.87854
n _D	589.3	1.88281
nd	587.6	1.88300
n _e	546.1	1.88814
n _F	486.1	1.89820
n _{F'}	480.0	1.89947
n _g	435.8	1.91047
n _h	404.7	1.92089
n _i	365.0	1.93914
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2362	P' _{s,t}	0.2333
P _{C,s}	0.4978	P' _{C,s}	0.5380
P _{d,C}	0.2968	P' _{d,C'}	0.2471
P _{e,d}	0.2377	P' _{e,d}	0.2348
P _{g,F}	0.5677	P' _{g,F'}	0.5028
P _{i,h}	0.8441	P' _{i,h}	0.8340

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0048	$\Delta P_{C,s}$	-0.0005
$\Delta P_{F,e}$	-0.0018	$\Delta P_{g,F}$	-0.0084

热性质 Thermal Properties

T _g (°C)	696
T _s (°C)	746
T _{1014.5} (°C)	629
T ₁₀₁₃ (°C)	667
T _{107.6} (°C)	
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	70
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	84
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.931	0.867
2200	0.980	0.960
2000	0.992	0.984
1800	0.997	0.995
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.997
800	0.998	0.996
700	0.998	0.996
650	0.997	0.995
600	0.997	0.995
550	0.997	0.995
500	0.993	0.986
480	0.989	0.979
460	0.984	0.969
440	0.976	0.953
420	0.968	0.937
400	0.950	0.902
390	0.931	0.866
380	0.901	0.811
370	0.851	0.725
360	0.777	0.603
350	0.669	0.448
340	0.522	0.273
330	0.341	0.116
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.58833900E+000
L1	6.89365063E-003
K2	8.51761043E-001
L2	2.88290456E-002
K3	1.58277400E+000
L3	1.25035652E+002

化学性质 Chemical Properties

	Grade
DW	1
DA	1
CR	1
RC(S)	1
RA(S)	2

折射率温度系数常数 Constants of dn/dt

D0	6.22E-07
D1	1.34E-08
D2	-3.94E-11
E0	8.98E-07
E1	8.81E-10
$\lambda_{TK}(\mu\text{m})$	0.175

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	678
FA	99
E(10 ⁷ Pa)	12461
G(10 ⁷ Pa)	4768
μ	0.307
B(10 ⁻¹² /Pa)	1.08

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.4	3.3	3.5	3.9	4.7	5.4
-40~-20	2.4	3.3	3.6	4.0	4.7	5.5
-20~0	2.5	3.4	3.8	4.1	4.8	5.6
0~20	2.6	3.5	3.9	4.5	4.9	6.0
20~40	2.6	3.9	4.2	4.6	5.6	6.3
40~60	2.9	4.1	4.4	4.9	5.6	6.6
60~80	3.1	4.1	4.5	4.7	5.8	6.8
80~100	3.1	4.2	4.6	5.0	6.0	6.9
100~120	3.2	4.2	4.7	5.1	6.1	7.0
120~140	3.2	4.3	4.7	5.1	6.1	7.1

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	390/330

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	5.42
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退火增值系数 ECFA.

β	110
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备注 Remarks

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H-ZLaF68N

883392

nd=

vd= 39.22

nF-nc= 0.02252

ne=

ve= 38.97

nF-nc'= 0.02280

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.83472
n _{1970.1}	1970.1	1.84162
n _{1529.6}	1529.6	1.84935
n _{1060.0}	1060.0	1.85865
n _t	1014.0	1.85986
n _s	852.1	1.86517
n _r	706.5	1.87264
nc	656.3	1.87634
nc'	643.9	1.87739
n _{He-Ne}	632.8	1.87837
n _D	589.3	1.88280
nd	587.6	1.88300
n _e	546.1	1.88835
n _F	486.1	1.89885
n _{F'}	480.0	1.90018
n _g	435.8	1.91175
n _h	404.7	1.92280
n _i	365.0	1.94240
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2360	P' _{s,t}	0.2331
P _{C,s}	0.4959	P' _{C,s}	0.5357
P _{d,C}	0.2959	P' _{d,C'}	0.2463
P _{e,d}	0.2374	P' _{e,d}	0.2345
P _{g,F}	0.5729	P' _{g,F'}	0.5074
P _{i,h}	0.8705	P' _{i,h}	0.8597

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0009	$\Delta P_{C,s}$	0.0015
$\Delta P_{F,e}$	-0.0015	$\Delta P_{g,F}$	-0.0060

热性质 Thermal Properties

T _g (°C)	707
T _s (°C)	755
T _{1014.5} (°C)	671
T ₁₀₁₃ (°C)	702
T _{107.6} (°C)	803
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	58
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	86
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.906	0.821
2200	0.975	0.951
2000	0.989	0.979
1800	0.997	0.995
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.996
700	0.997	0.995
650	0.997	0.995
600	0.997	0.994
550	0.997	0.994
500	0.995	0.991
480	0.992	0.985
460	0.989	0.979
440	0.984	0.968
420	0.976	0.953
400	0.957	0.916
390	0.938	0.880
380	0.905	0.819
370	0.843	0.711
360	0.729	0.531
350	0.513	0.263
340	0.205	0.042
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.49455000E+000
L1	1.09762527E+002
K2	2.07574200E+000
L2	1.04040774E-002
K3	3.61138165E-001
L3	4.12621424E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	1
CR	1
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-9.92E-09
D1	1.31E-08
D2	-2.62E-11
E0	7.34E-07
E1	7.89E-10
$\lambda_{TK}(\mu\text{m})$	0.237

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	687
FA	96
E(10 ⁷ Pa)	12583
G(10 ⁷ Pa)	4831
μ	0.303
B(10 ⁻¹² /Pa)	1.03

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	1.9	2.6	3.0	3.3	4.1	5.0
-40~-20	2.0	2.8	3.2	3.4	4.2	5.1
-20~0	2.1	2.9	3.2	3.5	4.3	5.2
0~20	2.2	3.0	3.3	3.6	4.4	5.5
20~40	2.3	3.1	3.4	4.0	4.8	5.9
40~60	2.4	3.5	3.8	4.2	5.0	6.0
60~80	2.5	3.5	4.0	4.4	5.5	6.2
80~100	2.7	3.6	4.1	4.6	5.6	6.4
100~120	2.8	3.8	4.2	4.7	5.6	6.7
120~140	2.8	4.0	4.3	4.6	5.7	7.0

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	380/340

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	5.17
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退火增值系数 ECFA.

β	130
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备注 Remarks

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H-ZLaF69A

816466

nd=

vd= 46.55

nF-nc= 0.01753

ne=

ve= 46.30

nF-nc'= 0.01771

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.77316
n _{1970.1}	1970.1	1.78015
n _{1529.6}	1529.6	1.78774
n _{1060.0}	1060.0	1.79621
n _t	1014.0	1.79725
n _s	852.1	1.80172
n _r	706.5	1.80779
nc	656.3	1.81074
nc'	643.9	1.81157
n _{He-Ne}	632.8	1.81235
n _D	589.3	1.81585
nd	587.6	1.81600
n _e	546.1	1.82017
n _F	486.1	1.82827
n _{F'}	480.0	1.82929
n _g	435.8	1.83803
n _h	404.7	1.84624
n _i	365.0	1.86043
n _{313.2}	313.2	1.89013
n _{302.2}	302.2	1.89917

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2548	P' _{s,t}	0.2521
P _{C,s}	0.5148	P' _{C,s}	0.5565
P _{d,C}	0.3000	P' _{d,C'}	0.2499
P _{e,d}	0.2380	P' _{e,d}	0.2356
P _{g,F}	0.5569	P' _{g,F'}	0.4938
P _{i,h}	0.8095	P' _{i,h}	0.8011

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0040	$\Delta P_{C,s}$	0.0030
$\Delta P_{F,e}$	-0.0023	$\Delta P_{g,F}$	-0.0095

热性质 Thermal Properties

T _g (°C)	696
T _s (°C)	736
T _{1014.5} (°C)	665
T ₁₀₁₃ (°C)	693
T _{107.6} (°C)	797
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	68
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	84
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.874	0.764
2200	0.967	0.936
2000	0.988	0.976
1800	0.996	0.993
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.998
550	0.998	0.997
500	0.998	0.996
480	0.997	0.995
460	0.996	0.993
440	0.995	0.990
420	0.993	0.986
400	0.988	0.977
390	0.985	0.970
380	0.978	0.956
370	0.965	0.931
360	0.942	0.888
350	0.910	0.828
340	0.862	0.743
330	0.796	0.634
320	0.709	0.502
310	0.514	0.264
300	0.438	0.192
290	0.281	0.079
280		

色散公式常数 Constants of Dispersion

K1	6.59414709E-001
L1	2.56059971E-002
K2	1.55675600E+000
L2	7.27769593E-003
K3	1.25418000E+000
L3	9.31176680E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	2
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	1.12E-06
D1	1.52E-08
D2	-3.71E-11
E0	6.39E-07
E1	4.90E-10
$\lambda_{TK}(\mu\text{m})$	0.192

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	721
FA	128
E(10 ⁷ Pa)	12469
G(10 ⁷ Pa)	4802
μ	0.298
B(10 ⁻¹² /Pa)	1.22

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.4	3.0	3.2	3.4	4.1	4.7
-40~-20	2.5	3.1	3.3	3.6	4.1	4.7
-20~0	2.6	3.1	3.4	3.6	4.1	4.8
0~20	2.6	3.2	3.5	3.7	4.3	5.0
20~40	2.9	3.7	3.8	4.3	4.7	5.4
40~60	2.9	3.7	3.9	4.3	5.0	5.4
60~80	3.1	3.8	4.1	4.3	5.1	5.5
80~100	3.2	4.0	4.3	4.4	5.1	5.8
100~120	3.2	4.0	4.4	4.5	5.2	6.1
120~140	3.3	4.1	4.5	4.7	5.3	6.3

着色度 Color Code

λ_{80}/λ_5	380/305
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	5.00
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退火增值系数 ECFA.

β	130
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备注 Remarks

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H-ZLaF71S

850323

nd=

vd= 32.30

nF-nc= 0.02633

ne=

ve= 32.06

nF-nc'= 0.02672

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.79626
n _{1970.1}	1970.1	1.80382
n _{1529.6}	1529.6	1.81230
n _{1060.0}	1060.0	1.82259
n _t	1014.0	1.82393
n _s	852.1	1.82989
n _r	706.5	1.83835
nc	656.3	1.84258
nc'	643.9	1.84378
n _{He-Ne}	632.8	1.84491
n _D	589.3	1.85003
nd	587.6	1.85026
n _e	546.1	1.85649
n _F	486.1	1.86891
n _{F'}	480.0	1.87050
n _g	435.8	1.88452
n _h	404.7	1.89827
n _i	365.0	1.92372
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2263	P' _{s,t}	0.2230
P _{C,s}	0.4820	P' _{C,s}	0.5200
P _{d,C}	0.2918	P' _{d,C'}	0.2425
P _{e,d}	0.2365	P' _{e,d}	0.2331
P _{g,F}	0.5931	P' _{g,F'}	0.5249
P _{i,h}	0.9668	P' _{i,h}	0.9527

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.864	0.746
2200	0.954	0.910
2000	0.983	0.967
1800	0.993	0.987
1600	0.997	0.995
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.996	0.992
700	0.995	0.991
650	0.994	0.989
600	0.994	0.989
550	0.993	0.986
500	0.986	0.972
480	0.981	0.962
460	0.974	0.949
440	0.963	0.927
420	0.945	0.893
400	0.901	0.812
390	0.858	0.737
380	0.782	0.611
370	0.627	0.393
360	0.332	0.110
350		
340		
330		
320		
310		
300		
290		
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0099	$\Delta P_{C,s}$	0.0039
$\Delta P_{F,e}$	-0.0002	$\Delta P_{g,F}$	0.0024

热性质 Thermal Properties

T _g (°C)	612
T _s (°C)	655
T _{1014.5} (°C)	574
T ₁₀₁₃ (°C)	605
T _{107.6} (°C)	706
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	76
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	92
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

色散公式常数 Constants of Dispersion

K1	2.76154608E-001
L1	5.57996407E-002
K2	2.02569100E+000
L2	1.20700598E-002
K3	1.44513500E+000
L3	9.98778230E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	-2.79E-06
D1	1.48E-08
D2	-2.75E-11
E0	8.00E-07
E1	8.15E-10
$\lambda_{TK}(\mu\text{m})$	0.275

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	607
FA	131
E(10 ⁷ Pa)	11225
G(10 ⁷ Pa)	4352
μ	0.29
B(10 ⁻¹² /Pa)	1.78

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-0.2	0.9	1.3	1.7	2.7	3.7
-40~-20	0.1	0.9	1.4	1.9	2.7	3.9
-20~0	0.1	1.2	1.5	1.9	2.8	4.1
0~20	0.4	1.3	1.7	1.9	3.2	4.5
20~40	0.7	1.3	1.9	2.1	3.5	4.7
40~60	0.8	1.7	2.3	2.6	3.7	5.1
60~80	0.9	2.1	2.4	3.1	4.2	5.7
80~100	0.9	2.3	2.6	3.3	4.5	6.0
100~120	0.9	2.3	2.7	3.4	4.7	6.1
120~140	0.9	2.3	2.7	3.4	4.8	6.2

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	405/360

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.22
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退火增值系数 ECFA.

β	180
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备注 Remarks

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H-ZLaF75S

904313

nd=

vd= 31.32

nF-nC= 0.02886

ne=

ve= 31.08

nF-nC'= 0.02929

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.84687
n _{1970.1}	1970.1	1.85438
n _{1529.6}	1529.6	1.86292
n _{1060.0}	1060.0	1.87363
n _t	1014.0	1.87506
n _s	852.1	1.88146
n _r	706.5	1.89065
n _C	656.3	1.89526
n _{C'}	643.9	1.89657
n _{He-Ne}	632.8	1.89781
n _D	589.3	1.90341
n _d	587.6	1.90366
n _e	546.1	1.91048
n _F	486.1	1.92412
n _{F'}	480.0	1.92587
n _g	435.8	1.94129
n _h	404.7	1.95645
n _i	365.0	1.98460
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2217	P' _{s,t}	0.2184
P _{C,s}	0.4781	P' _{C,s}	0.5158
P _{d,C}	0.2911	P' _{d,C'}	0.2420
P _{e,d}	0.2364	P' _{e,d}	0.2329
P _{g,F}	0.5953	P' _{g,F'}	0.5267
P _{i,h}	0.9753	P' _{i,h}	0.9608

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0061	$\Delta P_{C,s}$	0.0024
$\Delta P_{F,e}$	0.0000	$\Delta P_{g,F}$	0.0029

热性质 Thermal Properties

T _g (°C)	671
T _s (°C)	702
T _{1014.5} (°C)	622
T ₁₀₁₃ (°C)	654
T _{107.6} (°C)	753
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	78
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	88
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.906	0.821
2200	0.973	0.946
2000	0.989	0.978
1800	0.997	0.994
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.997	0.995
700	0.996	0.993
650	0.996	0.993
600	0.996	0.993
550	0.995	0.991
500	0.988	0.977
480	0.984	0.969
460	0.977	0.955
440	0.966	0.934
420	0.949	0.901
400	0.909	0.827
390	0.868	0.753
380	0.791	0.625
370	0.625	0.390
360	0.302	0.091
350		
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.50615100E+000
L1	1.02994728E+002
K2	2.18809200E+000
L2	1.27716120E-002
K3	2.97955781E-001
L3	5.69661707E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	2
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	-2.63E-06
D1	1.36E-08
D2	-3.31E-11
E0	9.08E-07
E1	1.12E-09
$\lambda_{TK}(\mu m)$	0.265

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	685
FA	124
E(10 ⁷ Pa)	11734
G(10 ⁷ Pa)	4523
μ	0.297
B(10 ⁻¹² /Pa)	

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-0.3	1.1	1.3	1.8	2.9	4.0
-40~-20	-0.2	1.2	1.5	2.0	3.1	4.3
-20~0	0.4	1.4	2.0	2.4	3.4	4.7
0~20	0.8	1.8	2.3	2.8	3.8	5.3
20~40	0.8	1.9	2.4	2.9	4.0	5.6
40~60	0.9	2.1	2.5	3.0	4.5	6.0
60~80	0.9	2.3	2.8	3.2	5.0	6.3
80~100	1.0	2.3	2.9	3.4	4.6	6.6
100~120	1.1	2.6	3.2	3.9	5.2	7.1
120~140	1.3	2.9	3.5	4.1	5.7	7.5

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	405/360

其他性质 Other Properties

$\rho(g/cm^3)$	4.54
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退火增值系数 ECFA.

β	160
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备注 Remarks

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H-ZLaF75C

904314

nd=

vd= 31.36

nF-nc= 0.02882

ne=

ve= 31.12

nF-nc'= 0.02926

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.84817
n _{1970.1}	1970.1	1.85524
n _{1529.6}	1529.6	1.86338
n _{1060.0}	1060.0	1.87380
n _t	1014.0	1.87521
n _s	852.1	1.88154
n _r	706.5	1.89068
nc	656.3	1.89528
nc'	643.9	1.89659
n _{He-Ne}	632.8	1.89782
n _D	589.3	1.90341
nd	587.6	1.90366
n _e	546.1	1.91047
n _F	486.1	1.92409
n _{F'}	480.0	1.92584
n _g	435.8	1.94126
n _h	404.7	1.95641
n _i	365.0	1.98452
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2197	P' _{s,t}	0.2164
P _{C,s}	0.4766	P' _{C,s}	0.5143
P _{d,C}	0.2909	P' _{d,C'}	0.2418
P _{e,d}	0.2364	P' _{e,d}	0.2329
P _{g,F}	0.5957	P' _{g,F'}	0.5270
P _{i,h}	0.9756	P' _{i,h}	0.9610

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0023	$\Delta P_{C,s}$	0.0008
$\Delta P_{F,e}$	0.0002	$\Delta P_{g,F}$	0.0034

热性质 Thermal Properties

T _g (°C)	670
T _s (°C)	703
T _{1014.5} (°C)	620
T ₁₀₁₃ (°C)	653
T _{107.6} (°C)	763
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	73
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	92
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.917	0.841
2200	0.975	0.950
2000	0.989	0.979
1800	0.997	0.993
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.998	0.997
600	0.996	0.992
550	0.995	0.991
500	0.993	0.986
480	0.989	0.978
460	0.985	0.970
440	0.978	0.957
420	0.964	0.929
400	0.930	0.864
390	0.892	0.796
380	0.817	0.668
370	0.650	0.422
360	0.318	0.101
350		
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.59326800E+000
L1	1.15386078E+002
K2	2.99676806E-001
L2	5.68068735E-002
K3	2.18604300E+000
L3	1.27688842E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	1
CR	1
RC(S)	2
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-1.51E-06
D1	1.55E-08
D2	-4.16E-11
E0	9.28E-07
E1	8.84E-10
$\lambda_{TK}(\mu m)$	0.264

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	622
FA	147
E(10 ⁷ Pa)	11744
G(10 ⁷ Pa)	4518
μ	0.3
B(10 ⁻¹² /Pa)	1.32

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	0.6	1.8	2.3	2.8	3.7	4.7
-40~-20	0.9	1.9	2.4	2.9	4.1	5.1
-20~0	1.1	2.1	2.6	3.0	4.3	5.6
0~20	1.3	2.3	2.9	3.4	4.7	6.1
20~40	1.5	2.7	3.2	3.6	5.0	6.5
40~60	1.6	2.9	3.5	4.0	5.3	6.9
60~80	1.8	3.2	3.7	4.3	5.6	7.2
80~100	1.9	3.4	3.9	4.4	5.8	7.5
100~120	2.0	3.4	3.9	4.5	5.8	7.7
120~140	2.0	3.5	4.0	4.7	6.0	7.8

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	400/360

其他性质 Other Properties

$\rho(g/cm^3)$	4.54
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退火增值系数 ECFA.

β	
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备注 Remarks

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H-ZLaF76S

850301

nd=

vd= 30.06

nF-nc= 0.02829

ne=

ve= 29.83

nF-nc'= 0.02872

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.79249
n _{1970.1}	1970.1	1.80059
n _{1529.6}	1529.6	1.80967
n _{1060.0}	1060.0	1.82063
n _t	1014.0	1.82206
n _s	852.1	1.82839
n _r	706.5	1.83740
nc	656.3	1.84191
nc'	643.9	1.84320
n _{He-Ne}	632.8	1.84441
n _D	589.3	1.84988
nd	587.6	1.85013
n _e	546.1	1.85681
n _F	486.1	1.87020
n _{F'}	480.0	1.87192
n _g	435.8	1.88717
n _h	404.7	1.90227
n _i	365.0	1.93064
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2240	P' _{s,t}	0.2206
P _{C,s}	0.4780	P' _{C,s}	0.5154
P _{d,C}	0.2905	P' _{d,C'}	0.2413
P _{e,d}	0.2362	P' _{e,d}	0.2326
P _{g,F}	0.6001	P' _{g,F'}	0.5309
P _{i,h}	1.0032	P' _{i,h}	0.9878

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0142	$\Delta P_{C,s}$	0.0052
$\Delta P_{F,e}$	0.0002	$\Delta P_{g,F}$	0.0056

热性质 Thermal Properties

T _g (°C)	632
T _s (°C)	670
T _{1014.5} (°C)	570
T ₁₀₁₃ (°C)	603
T _{107.6} (°C)	703
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	74
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	88
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.860	0.740
2200	0.956	0.914
2000	0.985	0.971
1800	0.996	0.992
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.997
700	0.998	0.996
650	0.997	0.994
600	0.996	0.992
550	0.993	0.986
500	0.985	0.971
480	0.980	0.960
460	0.973	0.946
440	0.961	0.923
420	0.938	0.880
400	0.890	0.790
390	0.840	0.700
380	0.730	0.530
370	0.490	0.240
360	0.140	0.020
350		
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	2.79518574E-001
L1	5.93856573E-002
K2	2.01429700E+000
L2	1.26257455E-002
K3	1.55073400E+000
L3	1.00032295E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	-8.76E-07
D1	1.45E-08
D2	-5.38E-11
E0	7.77E-07
E1	8.10E-10
$\lambda_{TK}(\mu\text{m})$	0.291

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	615
FA	137
E(10 ⁷ Pa)	10535
G(10 ⁷ Pa)	4192
μ	0.257
B(10 ⁻¹² /Pa)	2.16

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	1.0	2.2	2.4	3.3	3.7	5.3
-20~0	1.4	2.2	2.7	3.3	4.0	5.6
0~20	1.5	2.5	3.2	3.4	4.8	6.1
20~40	1.7	2.9	3.3	3.5	4.9	6.4
40~60	1.8	2.9	3.4	3.6	5.1	6.6
60~80	2.1	3.1	3.7	3.9	5.2	7.2
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	415/360

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.88
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退火增值系数 ECFA.

β	180
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备注 Remarks

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H-ZLaF78A

901371

nd=

vd= 37.05

nF-nc= 0.02431

ne=

ve= 36.80

nF-nc'= 0.02463

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.85041
n _{1970.1}	1970.1	1.85730
n _{1529.6}	1529.6	1.86510
n _{1060.0}	1060.0	1.87472
n _t	1014.0	1.87598
n _s	852.1	1.88160
n _r	706.5	1.88956
nc	656.3	1.89353
nc'	643.9	1.89465
n _{He-Ne}	632.8	1.89571
n _D	589.3	1.90048
nd	587.6	1.90069
n _e	546.1	1.90646
n _F	486.1	1.91784
n _{F'}	480.0	1.91928
n _g	435.8	1.93189
n _h	404.7	1.94400
n _i	365.0	1.96572
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2311	P' _{s,t}	0.2280
P _{C,s}	0.4907	P' _{C,s}	0.5300
P _{d,C}	0.2947	P' _{d,C'}	0.2452
P _{e,d}	0.2372	P' _{e,d}	0.2341
P _{g,F}	0.5780	P' _{g,F'}	0.5118
P _{i,h}	0.8933	P' _{i,h}	0.8817

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0010	$\Delta P_{C,s}$	0.0014
$\Delta P_{F,e}$	-0.0012	$\Delta P_{g,F}$	-0.0046

热性质 Thermal Properties

T _g (°C)	732
T _s (°C)	782
T _{1014.5} (°C)	680
T ₁₀₁₃ (°C)	731
T _{107.6} (°C)	833
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	78
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	90
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.915	0.837
2200	0.975	0.951
2000	0.990	0.980
1800	0.997	0.994
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.996
650	0.998	0.996
600	0.997	0.994
550	0.997	0.994
500	0.992	0.984
480	0.987	0.975
460	0.981	0.962
440	0.972	0.945
420	0.958	0.918
400	0.928	0.862
390	0.898	0.806
380	0.849	0.721
370	0.764	0.583
360	0.605	0.366
350	0.327	0.107
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	2.99636543E-001
L1	4.70546260E-002
K2	2.19452700E+000
L2	1.15403980E-002
K3	1.53572400E+000
L3	1.12608932E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	1
CR	1
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-4.39E-07
D1	1.46E-08
D2	-2.76E-11
E0	8.87E-07
E1	7.53E-10
$\lambda_{TK}(\mu\text{m})$	0.220

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	716
FA	101
E(10 ⁷ Pa)	12650
G(10 ⁷ Pa)	4853
μ	0.303
B(10 ⁻¹² /Pa)	0.95

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	1.7	2.4	2.7	3.0	4.1	4.9
-40~-20	1.7	2.7	3.1	3.5	4.3	5.3
-20~0	1.8	2.8	3.2	3.7	4.6	5.5
0~20	1.9	2.9	3.5	3.9	4.9	5.7
20~40	2.0	3.3	3.7	4.1	4.9	6.0
40~60	2.4	3.4	3.9	4.3	5.2	6.4
60~80	2.5	3.6	4.2	4.5	5.6	6.9
80~100	2.6	3.8	4.3	4.6	5.8	7.1
100~120	2.7	4.0	4.4	4.8	6.1	7.3
120~140	2.9	4.2	4.6	5.0	6.2	7.5

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	395/350

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	5.05
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退火增值系数 ECFA.

β	115
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备注 Remarks

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H-ZLaF89S

954323

nd=

vd= 32.31

nF-nc= 0.02952

ne=

ve= 32.07

nF-nc'= 0.02995

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.89702
n _{1970.1}	1970.1	1.90415
n _{1529.6}	1529.6	1.91239
n _{1060.0}	1060.0	1.92304
n _t	1014.0	1.92448
n _s	852.1	1.93100
n _r	706.5	1.94041
nc	656.3	1.94514
nc'	643.9	1.94648
n _{He-Ne}	632.8	1.94775
n _D	589.3	1.95349
nd	587.6	1.95375
n _e	546.1	1.96074
n _F	486.1	1.97466
n _{F'}	480.0	1.97644
n _g	435.8	1.99209
n _h	404.7	2.00736
n _i	365.0	2.03538
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2207	P' _{s,t}	0.2175
P _{C,s}	0.4790	P' _{C,s}	0.5170
P _{d,C}	0.2918	P' _{d,C'}	0.2426
P _{e,d}	0.2367	P' _{e,d}	0.2332
P _{g,F}	0.5906	P' _{g,F'}	0.5227
P _{i,h}	0.9489	P' _{i,h}	0.9352

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.931	0.866
2200	0.980	0.960
2000	0.991	0.983
1800	0.998	0.996
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.996
700	0.998	0.996
650	0.998	0.996
600	0.998	0.996
550	0.996	0.993
500	0.988	0.977
480	0.981	0.963
460	0.972	0.944
440	0.956	0.914
420	0.927	0.860
400	0.868	0.754
390	0.813	0.661
380	0.725	0.526
370	0.574	0.330
360	0.318	0.101
350		
340		
330		
320		
310		
300		
290		
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0012	$\Delta P_{C,s}$	0.0009
$\Delta P_{F,e}$	-0.0004	$\Delta P_{g,F}$	-0.0001

热性质 Thermal Properties

T _g (°C)	708
T _s (°C)	745
T _{1014.5} (°C)	649
T ₁₀₁₃ (°C)	685
T _{107.6} (°C)	800
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	72
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	88
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

色散公式常数 Constants of Dispersion

K1	2.33250000E+000
L1	1.27519406E-002
K2	3.38027447E-001
L2	5.35631850E-002
K3	1.63568700E+000
L3	1.14949417E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	1
CR	1
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-4.45E-07
D1	1.40E-08
D2	-3.45E-11
E0	9.44E-07
E1	1.04E-09
$\lambda_{TK}(\mu\text{m})$	0.253

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	698
FA	107
E(10 ⁷ Pa)	13043
G(10 ⁷ Pa)	4998
μ	0.305
B(10 ⁻¹² /Pa)	0.93

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	q
-60~-40						
-40~-20	1.9	2.8	3.3	3.8	4.6	6.3
-20~0	1.9	3.0	3.6	4.0	5.2	6.6
0~20	1.9	3.5	3.9	4.3	5.6	6.8
20~40	2.2	3.6	4.0	4.6	5.9	7.3
40~60	2.6	3.8	4.3	4.7	6.3	7.8
60~80	2.8	3.9	4.4	5.1	6.4	8.1
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	420/360

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	5.1
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退火增值系数 ECFA.

β	130
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备注 Remarks

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H-ZLaF90S

001254

nd=

vd= 25.43

nF-nc= 0.03936

ne=

ve= 25.22

nF-nc'= 0.04004

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.93209
n _{1970.1}	1970.1	1.93973
n _{1529.6}	1529.6	1.94885
n _{1060.0}	1060.0	1.96140
n _t	1014.0	1.96317
n _s	852.1	1.97128
n _r	706.5	1.98328
nc	656.3	1.98940
nc'	643.9	1.99116
n _{He-Ne}	632.8	1.99281
n _D	589.3	2.00035
nd	587.6	2.00069
n _e	546.1	2.00996
n _F	486.1	2.02876
n _{F'}	480.0	2.03120
n _g	435.8	2.05293
n _h	404.7	2.07472
n _i	365.0	
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2061	P' _{s,t}	0.2026
P _{C,s}	0.4605	P' _{C,s}	0.4965
P _{d,C}	0.2868	P' _{d,C'}	0.2381
P _{e,d}	0.2356	P' _{e,d}	0.2316
P _{g,F}	0.6141	P' _{g,F'}	0.5428
P _{i,h}		P' _{i,h}	

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0006	$\Delta P_{C,s}$	-0.0013
$\Delta P_{F,e}$	0.0019	$\Delta P_{g,F}$	0.0117

热性质 Thermal Properties

T _g (°C)	683
T _s (°C)	724
T _{1014.5} (°C)	634
T ₁₀₁₃ (°C)	668
T _{107.6} (°C)	785
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	70
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	87
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.943	0.889
2200	0.982	0.964
2000	0.993	0.985
1800	0.997	0.995
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.996
650	0.996	0.993
600	0.995	0.990
550	0.991	0.982
500	0.977	0.955
480	0.966	0.934
460	0.953	0.908
440	0.925	0.856
420	0.872	0.761
400	0.764	0.583
390	0.658	0.433
380	0.466	0.217
370	0.184	0.034
360		
350		
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	4.94167179E-001
L1	6.02358095E-002
K2	2.31375100E+000
L2	1.37149198E-002
K3	2.27929900E+000
L3	1.48088425E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	1
CR	
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-2.20E-06
D1	1.40E-08
D2	-1.91E-11
E0	1.04E-06
E1	1.38E-09
$\lambda_{TK}(\mu\text{m})$	0.290

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	625
FA	124
E(10 ⁷ Pa)	12348
G(10 ⁷ Pa)	4756
μ	0.298
B(10 ⁻¹² /Pa)	

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	0.5	1.7	1.9	2.8	4.4	6.0
-40~-20	0.7	2.1	2.3	2.9	4.8	6.4
-20~0	0.8	2.2	2.9	3.3	5.3	7.2
0~20	1.0	2.3	3.2	3.8	5.5	7.8
20~40	1.2	2.7	3.5	4.3	6.0	8.4
40~60	1.3	3.0	3.7	4.6	6.6	9.0
60~80	1.4	3.2	3.9	4.7	6.8	9.4
80~100	1.6	3.5	4.1	5.1	7.1	9.8
100~120	2.1	4.0	4.7	5.6	7.7	10.5
120~140	2.5	4.5	5.4	6.5	8.5	11.4

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	445/370

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.74
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退火增值系数 ECFA.

β	220
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备注 Remarks

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H-ZLaF91S

001292

nd=

vd= 29.15

nF-nc= 0.03434

ne=

ve= 28.93

nF-nc'= 0.03488

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.93841
n _{1970.1}	1970.1	1.94573
n _{1529.6}	1529.6	1.95436
n _{1060.0}	1060.0	1.96594
n _t	1014.0	1.96755
n _s	852.1	1.97489
n _r	706.5	1.98562
nc	656.3	1.99105
nc'	643.9	1.99260
n _{He-Ne}	632.8	1.99406
n _D	589.3	2.00070
nd	587.6	2.00100
n _e	546.1	2.00911
n _F	486.1	2.02539
n _{F'}	480.0	2.02748
n _g	435.8	2.04599
n _h	404.7	2.06425
n _i	365.0	2.09833
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2135	P' _{s,t}	0.2102
P _{C,s}	0.4707	P' _{C,s}	0.5079
P _{d,C}	0.2897	P' _{d,C'}	0.2408
P _{e,d}	0.2363	P' _{e,d}	0.2326
P _{g,F}	0.6000	P' _{g,F'}	0.5307
P _{i,h}	0.9924	P' _{i,h}	0.9770

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0007	$\Delta P_{C,s}$	0.0001
$\Delta P_{F,e}$	0.0004	$\Delta P_{g,F}$	0.0039

热性质 Thermal Properties

T _g (°C)	722
T _s (°C)	754
T _{1014.5} (°C)	671
T ₁₀₁₃ (°C)	703
T _{107.6} (°C)	809
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	75
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	92
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.936	0.876
2200	0.980	0.960
2000	0.992	0.983
1800	0.997	0.995
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.997
650	0.998	0.996
600	0.997	0.994
550	0.995	0.990
500	0.987	0.975
480	0.981	0.963
460	0.973	0.947
440	0.959	0.920
420	0.931	0.866
400	0.866	0.750
390	0.801	0.641
380	0.686	0.471
370	0.476	0.227
360	0.176	0.031
350		
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	3.84293199E-001
L1	5.75837158E-002
K2	2.44631600E+000
L2	1.37640871E-002
K3	1.89452400E+000
L3	1.28018829E+002

化学性质 Chemical Properties

	Grade
DW	1
DA	1
CR	1
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-1.69E-06
D1	1.29E-08
D2	-3.72E-11
E0	1.06E-06
E1	1.39E-09
$\lambda_{TK}(\mu\text{m})$	0.259

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	700
FA	101
E(10 ⁷ Pa)	13241
G(10 ⁷ Pa)	5070
μ	0.306
B(10 ⁻¹² /Pa)	

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	0.9	2.0	2.5	3.0	4.1	5.6
-40~-20	1.0	2.3	2.9	3.3	4.7	6.3
-20~0	1.1	2.6	3.1	3.5	5.0	6.5
0~20	1.2	2.7	3.2	3.9	5.5	7.1
20~40	1.3	2.8	3.5	4.4	5.9	7.8
40~60	1.5	3.2	4.0	4.5	6.1	8.0
60~80	1.7	3.6	4.2	4.8	6.7	8.5
80~100	1.9	3.7	4.3	4.8	6.7	8.9
100~120	2.0	3.7	4.4	5.0	7.0	9.2
120~140	2.1	3.8	4.6	5.3	7.2	9.3

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	425/365

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	5.14
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退火增值系数 ECFA.

β	
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备注 Remarks

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H-ZLaF92S

003283

nd=

vd= 28.32

nF-nc= 0.03543

ne=

ve= 28.10

nF-nc'= 0.03600

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.93900
n _{1970.1}	1970.1	1.94652
n _{1529.6}	1529.6	1.95538
n _{1060.0}	1060.0	1.96726
n _t	1014.0	1.96891
n _s	852.1	1.97644
n _r	706.5	1.98747
nc	656.3	1.99306
nc'	643.9	1.99465
n _{He-Ne}	632.8	1.99616
n _D	589.3	2.00299
nd	587.6	2.00330
n _e	546.1	2.01167
n _F	486.1	2.02849
n _{F'}	480.0	2.03065
n _g	435.8	2.04986
n _h	404.7	2.06889
n _i	365.0	2.10467
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2124	P' _{s,t}	0.2091
P _{C,s}	0.4689	P' _{C,s}	0.5059
P _{d,C}	0.2891	P' _{d,C'}	0.2402
P _{e,d}	0.2361	P' _{e,d}	0.2324
P _{g,F}	0.6032	P' _{g,F'}	0.5335
P _{i,h}	1.0099	P' _{i,h}	0.9939

内透射率 Internal Transmittance

λ (nm)	τ 5mm	τ 10mm
2400	0.939	0.882
2200	0.981	0.963
2000	0.991	0.983
1800	0.997	0.993
1600	0.998	0.996
1400	0.998	0.997
1200	0.998	0.997
1060	0.998	0.996
1000	0.998	0.996
950	0.998	0.995
900	0.997	0.995
850	0.997	0.995
800	0.993	0.987
700	0.992	0.984
650	0.990	0.980
600	0.988	0.976
550	0.979	0.959
500	0.956	0.913
480	0.939	0.882
460	0.918	0.843
440	0.885	0.784
420	0.830	0.689
400	0.722	0.521
390	0.629	0.396
380	0.482	0.232
370	0.257	0.066
360	0.095	0.009
350		
340		
330		
320		
310		
300		
290		
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0017	$\Delta P_{C,s}$	0.0003
$\Delta P_{F,e}$	0.0006	$\Delta P_{g,F}$	0.0057

热性质 Thermal Properties

T _g (°C)	703
T _s (°C)	747
T _{1014.5} (°C)	658
T ₁₀₁₃ (°C)	693
T _{107.6} (°C)	800
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	69
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	87
$\lambda(W/m\cdot K)$	

色散公式常数 Constants of Dispersion

K1	1.86762200E+000
L1	1.23078621E+002
K2	3.75569195E-001
L2	5.96643761E-002
K3	2.45933100E+000
L3	1.41481599E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	1
CR	1
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-5.53E-07
D1	1.56E-08
D2	-5.25E-11
E0	1.00E-06
E1	1.17E-09
$\lambda_{TK}(\mu m)$	0.275

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	697
FA	96
E(10 ⁷ Pa)	13318
G(10 ⁷ Pa)	5106
μ	0.304
B(10 ⁻¹² /Pa)	0.96

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	1.4	2.6	3.2	3.7	5.0	6.6
-40~-20	1.4	2.7	3.4	3.9	5.2	7.0
-20~0	1.8	3.2	3.7	4.1	5.6	7.2
0~20	2.0	3.5	4.0	4.6	6.1	8.0
20~40	2.0	3.9	4.4	5.1	7.1	9.0
40~60	2.5	4.1	4.8	5.4	7.2	9.1
60~80	2.7	4.2	4.9	5.5	7.3	9.3
80~100	2.9	4.2	5.0	5.6	7.5	9.6
100~120	3.0	4.5	5.3	6.0	7.9	10.0
120~140	2.8	4.5	5.3	6.1	8.1	10.3

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	445/370

其他性质 Other Properties

$\rho(g/cm^3)$	5.02
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退火增值系数 ECFA.

β	
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备注 Remarks

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H-ZF7S

805255

nd=

vd= 25.46

nF-nc= 0.03163

ne=

ve= 25.25

nF-nc'= 0.03218

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.74966
n _{1970.1}	1970.1	1.75593
n _{1529.6}	1529.6	1.76338
n _{1060.0}	1060.0	1.77355
n _t	1014.0	1.77498
n _s	852.1	1.78153
n _r	706.5	1.79118
nc	656.3	1.79611
nc'	643.9	1.79752
n _{He-Ne}	632.8	1.79885
n _D	589.3	1.80491
nd	587.6	1.80518
n _e	546.1	1.81263
n _F	486.1	1.82774
n _{F'}	480.0	1.82970
n _g	435.8	1.84719
n _h	404.7	1.86479
n _i	365.0	1.89867
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2069	P' _{s,t}	0.2034
P _{C,s}	0.4610	P' _{C,s}	0.4970
P _{d,C}	0.2868	P' _{d,C'}	0.2381
P _{e,d}	0.2356	P' _{e,d}	0.2316
P _{g,F}	0.6151	P' _{g,F'}	0.5437
P _{i,h}	1.0713	P' _{i,h}	1.0530

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0018	$\Delta P_{C,s}$	-0.0009
$\Delta P_{F,e}$	0.0020	$\Delta P_{g,F}$	0.0127

热性质 Thermal Properties

T _g (°C)	580
T _s (°C)	615
T _{1014.5} (°C)	530
T ₁₀₁₃ (°C)	558
T _{107.6} (°C)	678
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	90
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	113
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.924	0.854
2200	0.958	0.917
2000	0.976	0.953
1800	0.986	0.973
1600	0.996	0.992
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.996
700	0.998	0.996
650	0.997	0.995
600	0.997	0.995
550	0.996	0.993
500	0.992	0.985
480	0.991	0.982
460	0.988	0.976
440	0.982	0.965
420	0.970	0.940
400	0.936	0.877
390	0.900	0.810
380	0.804	0.647
370	0.556	0.309
360	0.145	0.021
350		
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.65846100E+000
L1	1.44874695E+002
K2	2.98796475E-001
L2	6.35424629E-002
K3	1.81848300E+000
L3	1.41908359E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	1
CR	1
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-7.91E-06
D1	1.24E-08
D2	-3.12E-11
E0	1.09E-06
E1	1.48E-09
$\lambda_{TK}(\mu m)$	0.281

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	513
FA	192
E(10 ⁷ Pa)	8994
G(10 ⁷ Pa)	3555
μ	0.265
B(10 ⁻¹² /Pa)	2.65

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-2.3	-1.8	-0.8	-0.6	0.3	1.8
-40~-20	-3.1	-1.7	-1.4	-0.8	0.6	1.7
-20~0	-2.7	-1.5	-1.0	-0.6	0.8	2.6
0~20	-2.5	-1.1	-0.9	-0.4	0.9	2.5
20~40	-2.4	-1.1	-0.7	0.0	1.6	3.2
40~60	-2.3	-0.9	-0.3	0.1	1.9	3.8
60~80	-2.3	-0.8	-0.3	0.5	2.1	4.0
80~100	-2.0	-0.7	-0.1	0.8	2.3	4.5
100~120	-2.3	-0.4	0.1	0.5	2.2	4.3
120~140	-1.6	-0.2	0.2	1.2	3.2	5.2

着色度 Color Code

λ_{80}/λ_5	425/365
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	3.35
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退火增值系数 ECFA.

β	215
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备注 Remarks

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H-ZF13S

785257

nd=

vd= 25.72

nF-nc= 0.03051

ne=

ve= 25.51

nF-nc'= 0.03104

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.72972
n _{1970.1}	1970.1	1.73624
n _{1529.6}	1529.6	1.74391
n _{1060.0}	1060.0	1.75409
n _t	1014.0	1.75549
n _s	852.1	1.76187
n _r	706.5	1.77122
nc	656.3	1.77597
nc'	643.9	1.77733
n _{He-Ne}	632.8	1.77861
n _D	589.3	1.78446
nd	587.6	1.78472
n _e	546.1	1.79191
n _F	486.1	1.80648
n _{F'}	480.0	1.80837
n _g	435.8	1.82527
n _h	404.7	1.84227
n _i	365.0	
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2091	P' _{s,t}	0.2055
P _{C,s}	0.4622	P' _{C,s}	0.4981
P _{d,C}	0.2868	P' _{d,C'}	0.2381
P _{e,d}	0.2355	P' _{e,d}	0.2315
P _{g,F}	0.6157	P' _{g,F'}	0.5443
P _{i,h}		P' _{i,h}	

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0039	$\Delta P_{C,s}$	-0.0003
$\Delta P_{F,e}$	0.0022	$\Delta P_{g,F}$	0.0138

热性质 Thermal Properties

T _g (°C)	610
T _s (°C)	644
T _{1014.5} (°C)	556
T ₁₀₁₃ (°C)	593
T _{107.6} (°C)	707
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	94
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	106
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.953	0.909
2200	0.972	0.944
2000	0.987	0.974
1800	0.993	0.987
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.996
650	0.997	0.995
600	0.997	0.994
550	0.996	0.992
500	0.991	0.983
480	0.989	0.978
460	0.985	0.971
440	0.978	0.956
420	0.959	0.919
400	0.900	0.810
390	0.810	0.650
380	0.620	0.380
370	0.270	0.070
360		
350		
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.73521600E+000
L1	1.31087909E-002
K2	3.16277474E-001
L2	6.21421710E-002
K3	2.16384600E+000
L3	1.78845551E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	1
CR	1
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-5.40E-06
D1	1.34E-08
D2	-3.56E-11
E0	1.01E-06
E1	1.25E-09
$\lambda_{TK}(\mu m)$	0.291

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	544
FA	187
E(10 ⁷ Pa)	9196
G(10 ⁷ Pa)	3675
μ	0.251
B(10 ⁻¹² /Pa)	2.73

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-1.7	-0.5	-0.1	0.3	1.3	2.8
-40~-20	-1.4	-0.1	0.2	0.7	2.0	3.5
-20~0	-1.0	0.0	0.4	1.0	2.3	3.8
0~20	-0.9	0.1	0.6	1.2	2.5	4.1
20~40	-0.7	0.3	0.8	1.5	2.8	4.6
40~60	-0.7	0.4	1.0	1.6	3.1	4.8
60~80	-0.7	0.5	1.4	1.8	3.3	5.6
80~100	-0.7	0.9	1.5	1.8	3.4	5.6
100~120	-0.7	1.0	1.5	2.2	4.1	6.2
120~140	-0.6	1.1	1.6	2.4	4.2	6.3

着色度 Color Code

λ_{80}/λ_5	425/370
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	3.25
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退火增值系数 ECFA.

β	240
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备注 Remarks

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H-ZF52S

847238

nd=

vd= 23.78

nF-nc= 0.03560

ne=

ve= 23.60

nF-nc'= 0.03624

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.78523
n _{1970.1}	1970.1	1.79203
n _{1529.6}	1529.6	1.80018
n _{1060.0}	1060.0	1.81140
n _t	1014.0	1.81298
n _s	852.1	1.82024
n _r	706.5	1.83099
nc	656.3	1.83650
nc'	643.9	1.83807
n _{He-Ne}	632.8	1.83956
n _D	589.3	1.84635
nd	587.6	1.84666
n _e	546.1	1.85504
n _F	486.1	1.87209
n _{F'}	480.0	1.87431
n _g	435.8	1.89419
n _h	404.7	1.91428
ni	365.0	
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2039	P' _{s,t}	0.2003
P _{C,s}	0.4568	P' _{C,s}	0.4922
P _{d,C}	0.2855	P' _{d,C}	0.2370
P _{e,d}	0.2353	P' _{e,d}	0.2312
P _{g,F}	0.6207	P' _{g,F}	0.5485
P _{i,h}		P' _{i,h}	

内透射率 Internal Transmittance

λ (nm)	τ 5mm	τ 10mm
2400	0.943	0.890
2200	0.969	0.939
2000	0.983	0.966
1800	0.989	0.979
1600	0.996	0.992
1400	0.997	0.995
1200	0.999	0.998
1060	0.998	0.997
1000	0.998	0.997
950	0.998	0.997
900	0.998	0.997
850	0.998	0.997
800	0.996	0.994
700	0.995	0.991
650	0.995	0.990
600	0.995	0.991
550	0.993	0.987
500	0.986	0.973
480	0.982	0.964
460	0.976	0.953
440	0.965	0.931
420	0.947	0.896
400	0.888	0.789
390	0.813	0.661
380	0.643	0.413
370	0.300	0.090
360		
350		
340		
330		
320		
310		
300		
290		
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0023	$\Delta P_{C,s}$	-0.0012
$\Delta P_{F,e}$	0.0026	$\Delta P_{g,F}$	0.0155

热性质 Thermal Properties

T _g (°C)	626
T _s (°C)	653
T _{1014.5} (°C)	572
T ₁₀₁₃ (°C)	605
T _{107.6} (°C)	711
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	88
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	108
$\lambda(W/m\cdot K)$	

色散公式常数 Constants of Dispersion

K1	4.09982651E-001
L1	6.21421225E-002
K2	2.37517200E+000
L2	1.85055130E+002
K3	1.83913600E+000
L3	1.36093469E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	1
CR	1
RC(S)	2
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-6.18E-06
D1	1.63E-08
D2	-4.50E-11
E0	1.12E-06
E1	1.19E-09
$\lambda_{TK}(\mu m)$	0.291

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	555
FA	185
E(10 ⁷ Pa)	9478
G(10 ⁷ Pa)	3742
μ	0.266
B(10 ⁻¹² /Pa)	2.71

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-2.1	-0.7	-0.3	0.1	1.6	3.1
-40~-20	-2.0	-0.7	-0.1	0.4	1.9	3.3
-20~0	-1.9	-0.5	0.0	0.6	2.0	4.1
0~20	-1.9	-0.4	0.1	0.7	2.5	4.5
20~40	-1.4	0.1	0.6	1.5	3.0	5.2
40~60	-1.1	0.3	1.0	1.8	3.4	5.5
60~80	-1.0	0.6	1.0	2.0	3.5	5.8
80~100	-0.9	0.6	1.2	2.1	3.9	6.4
100~120	-0.9	0.7	1.4	2.1	4.1	7.0
120~140	-0.8	0.7	1.5	2.2	4.5	7.3

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	410/370

其他性质 Other Properties

$\rho(g/cm^3)$	3.51
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退火增值系数 ECFA.

β	250
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备注 Remarks

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H-ZF62S

923209

nd=

vd= 20.88

nF-nc= 0.04420

ne=

ve= 20.70

nF-nc' = 0.04508

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.84888
n _{1970.1}	1970.1	1.85699
n _{1529.6}	1529.6	1.86668
n _{1060.0}	1060.0	1.88006
n _t	1014.0	1.88195
n _s	852.1	1.89067
n _r	706.5	1.90369
nc	656.3	1.91039
nc'	643.9	1.91232
n _{He-Ne}	632.8	1.91414
n _D	589.3	1.92248
nd	587.6	1.92286
n _e	546.1	1.93322
n _F	486.1	1.95459
n _{F'}	480.0	1.95740
n _g	435.8	1.98287
n _h	404.7	2.00927
n _i	365.0	
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.1973	P' _{s,t}	0.1935
P _{C,s}	0.4462	P' _{C,s}	0.4802
P _{d,C}	0.2821	P' _{d,C'}	0.2338
P _{e,d}	0.2345	P' _{e,d}	0.2299
P _{g,F}	0.6399	P' _{g,F'}	0.5651
P _{i,h}		P' _{i,h}	

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0011	$\Delta P_{C,s}$	-0.0049
$\Delta P_{F,e}$	0.0053	$\Delta P_{g,F}$	0.0298

热性质 Thermal Properties

T _g (°C)	720
T _s (°C)	751
T _{1014.5} (°C)	667
T ₁₀₁₃ (°C)	699
T _{107.6} (°C)	806
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	64
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	77
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.969	0.938
2200	0.981	0.962
2000	0.990	0.979
1800	0.994	0.987
1600	0.997	0.995
1400	0.999	0.997
1200	0.999	0.998
1060	0.999	0.997
1000	0.998	0.996
950	0.998	0.996
900	0.997	0.994
850	0.997	0.994
800	0.996	0.992
700	0.995	0.990
650	0.993	0.986
600	0.992	0.984
550	0.986	0.973
500	0.972	0.944
480	0.964	0.929
460	0.953	0.908
440	0.933	0.871
420	0.894	0.799
400	0.732	0.536
390	0.459	0.211
380		
370		
360		
350		
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	2.55246800E+000
L1	1.62450699E+002
K2	4.65681612E-001
L2	6.95600882E-002
K3	2.02894700E+000
L3	1.47711392E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	1
CR	1
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-6.75E-06
D1	1.69E-08
D2	-4.10E-11
E0	9.81E-07
E1	1.32E-09
$\lambda_{TK}(\mu m)$	0.322

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	475
FA	200
E(10 ⁷ Pa)	9443
G(10 ⁷ Pa)	3734
μ	0.264
B(10 ⁻¹² /Pa)	2.77

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-2.8	-1.7	-1.4	-0.7	0.9	2.8
-40~-20	-2.6	-1.5	-1.1	-0.5	1.4	3.5
-20~0	-2.5	-1.3	-0.8	-0.1	1.8	4.1
0~20	-2.4	-1.2	-0.4	0.3	2.1	4.9
20~40	-2.2	-0.5	0.1	0.8	2.8	5.6
40~60	-1.9	-0.2	0.6	1.4	3.5	6.4
60~80	-1.5	0.1	0.9	1.7	4.0	7.1
80~100	-1.3	0.2	0.9	1.9	4.1	7.4
100~120	-1.1	0.5	1.1	2.0	4.6	7.8
120~140	-1.0	0.6	1.5	2.5	5.0	8.4

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	430/385

其他性质 Other Properties

$\rho(g/cm^3)$	4.01
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退火增值系数 ECFA.

β	251
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备注 Remarks

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H-ZF71S

808227

nd=

vd= 22.70

nF-nc= 0.03560

ne=

ve= 22.51

nF-nc'= 0.03627

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.74447
n _{1970.1}	1970.1	1.75218
n _{1529.6}	1529.6	1.76116
n _{1060.0}	1060.0	1.77290
n _t	1014.0	1.77451
n _s	852.1	1.78180
n _r	706.5	1.79251
nc	656.3	1.79798
nc'	643.9	1.79955
n _{He-Ne}	632.8	1.80103
n _D	589.3	1.80780
nd	587.6	1.80810
n _e	546.1	1.81646
n _F	486.1	1.83359
n _{F'}	480.0	1.83582
n _g	435.8	1.85600
n _h	404.7	1.87663
n _i	365.0	
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2050	P' _{s,t}	0.2012
P _{C,s}	0.4545	P' _{C,s}	0.4893
P _{d,C}	0.2842	P' _{d,C'}	0.2357
P _{e,d}	0.2349	P' _{e,d}	0.2306
P _{g,F}	0.6295	P' _{g,F'}	0.5562
P _{i,h}		P' _{i,h}	

内透射率 Internal Transmittance

λ (nm)	τ 5mm	τ 10mm
2400	0.936	0.876
2200	0.966	0.934
2000	0.987	0.975
1800	0.993	0.986
1600	0.997	0.994
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.996
700	0.997	0.995
650	0.997	0.994
600	0.996	0.993
550	0.994	0.989
500	0.987	0.974
480	0.983	0.967
460	0.978	0.957
440	0.970	0.940
420	0.955	0.912
400	0.907	0.823
390	0.815	0.665
380	0.547	0.299
370	0.114	0.013
360		
350		
340		
330		
320		
310		
300		
290		
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0063	$\Delta P_{C,s}$	-0.0009
$\Delta P_{F,e}$	0.0038	$\Delta P_{g,F}$	0.0224

热性质 Thermal Properties

T _g (°C)	566
T _s (°C)	611
T _{1014.5} (°C)	522
T ₁₀₁₃ (°C)	555
T _{107.6} (°C)	663
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	93
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	105
$\lambda(W/m\cdot K)$	

色散公式常数 Constants of Dispersion

K1	4.06804860E-001
L1	6.45152181E-002
K2	1.70831100E+000
L2	1.27703249E-002
K3	2.36137300E+000
L3	1.63275589E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	1
CR	1
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-9.66E-06
D1	1.15E-08
D2	-5.06E-11
E0	9.75E-07
E1	1.26E-09
$\lambda_{TK}(\mu m)$	0.313

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	428
FA	275
E(10 ⁷ Pa)	8537
G(10 ⁷ Pa)	3398
μ	0.256
B(10 ⁻¹² /Pa)	3.48

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-3.9	-2.9	-2.6	-2.1	-0.8	0.7
-40~-20	-3.9	-2.8	-2.4	-1.8	-0.5	1.2
-20~0	-3.8	-2.7	-2.2	-1.6	-0.3	1.7
0~20	-3.7	-2.5	-2.0	-1.5	0.2	2.1
20~40	-3.6	-2.4	-1.9	-1.2	0.5	2.5
40~60	-3.5	-2.3	-1.7	-1.0	0.6	3.0
60~80	-3.3	-2.1	-1.4	-0.9	1.1	3.4
80~100	-3.4	-2.1	-1.4	-0.9	1.1	3.5
100~120	-3.6	-2.2	-1.4	-0.9	1.1	3.9
120~140	-4.0	-2.3	-1.7	-0.9	1.1	4.0

着色度 Color Code

λ_{80}/λ_5	450/370
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	3.30
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退火增值系数 ECFA.

β	250
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备注 Remarks

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H-ZF72S

923189

nd=

vd= 18.90

nF-nC= 0.04884

ne=

ve= 18.74

nF-nC'= 0.04986

折射率 Refractive Index

	λ (nm)	
n _{2325.4}	2325.4	1.84205
n _{1970.1}	1970.1	1.85092
n _{1529.6}	1529.6	1.86150
n _{1060.0}	1060.0	1.87606
n _t	1014.0	1.87812
n _s	852.1	1.88761
n _r	706.5	1.90183
n _C	656.3	1.90917
n _{C'}	643.9	1.91128
n _{He-Ne}	632.8	1.91328
n _D	589.3	1.92245
n _d	587.6	1.92286
n _e	546.1	1.93429
n _F	486.1	1.95800
n _{F'}	480.0	1.96114
n _g	435.8	1.98974
n _h	404.7	2.01978
n _i	365.0	
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.1945	P' _{s,t}	0.1905
P _{C,s}	0.4413	P' _{C,s}	0.4746
P _{d,C}	0.2804	P' _{d,C'}	0.2323
P _{e,d}	0.2340	P' _{e,d}	0.2293
P _{g,F}	0.6499	P' _{g,F'}	0.5738
P _{i,h}		P' _{i,h}	

内透射率 Internal Transmittance

λ (nm)	τ 5mm	τ 10mm
2400	0.963	0.927
2200	0.978	0.956
2000	0.988	0.976
1800	0.993	0.986
1600	0.997	0.995
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.998	0.997
950	0.998	0.997
900	0.998	0.997
850	0.998	0.997
800	0.998	0.996
700	0.997	0.995
650	0.997	0.994
600	0.996	0.992
550	0.991	0.982
500	0.977	0.955
480	0.967	0.935
460	0.950	0.903
440	0.921	0.849
420	0.860	0.740
400	0.594	0.353
390	0.230	0.053
380		
370		
360		
350		
340		
330		
320		
310		
300		
290		
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0005	$\Delta P_{C,s}$	-0.0051
$\Delta P_{F,e}$	0.0064	$\Delta P_{g,F}$	0.0363

热性质 Thermal Properties

T _g (°C)	667
T _s (°C)	697
T _{1014.5} (°C)	614
T ₁₀₁₃ (°C)	649
T _{107.6} (°C)	749
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	67
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	84
$\lambda(W/m\cdot K)$	

色散公式常数 Constants of Dispersion

K1	4.70478624E-001
L1	7.36024603E-002
K2	2.55040200E+000
L2	1.49306625E+002
K3	2.00593400E+000
L3	1.62999239E-002

化学性质 Chemical Properties

	Grade
DW	1
DA	1
CR	1
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-5.63E-06
D1	1.59E-08
D2	-4.96E-11
E0	1.13E-06
E1	1.73E-09
$\lambda_{TK}(\mu m)$	0.328

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	484
FA	193
E(10 ⁷ Pa)	10223
G(10 ⁷ Pa)	4012
μ	0.274
B(10 ⁻¹² /Pa)	3.19

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-2.5	-0.8	-0.2	0.5	2.2	5.2
-40~-20	-2.1	-0.5	0.2	0.8	2.8	5.8
-20~0	-1.7	-0.2	0.6	1.5	3.6	6.4
0~20	-1.2	0.2	0.9	1.8	4.1	7.1
20~40	-0.8	0.6	1.4	2.1	4.8	8.4
40~60	-0.5	0.8	1.7	2.6	5.3	9.1
60~80	-1.0	1.0	2.0	3.1	5.9	9.8
80~100	-0.7	1.3	2.2	3.3	6.4	10.5
100~120	-0.9	1.6	2.4	3.6	6.7	11.0
120~140	-0.5	1.8	2.7	4.0	7.1	11.6

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	435/390

其他性质 Other Properties

$\rho(g/cm^3)$	3.57
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退火增值系数 ECFA.

β	280
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备注 Remarks

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H-ZF88S

946179

nd=

vd= 17.94

nF-nc= 0.05272

ne=

ve= 17.80

nF-nc'= 0.05385

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.85934
n _{1970.1}	1970.1	1.86890
n _{1529.6}	1529.6	1.88022
n _{1060.0}	1060.0	1.89575
n _t	1014.0	1.89795
n _s	852.1	1.90811
n _r	706.5	1.92334
nc	656.3	1.93122
nc'	643.9	1.93349
n _{He-Ne}	632.8	1.93563
n _D	589.3	1.94550
nd	587.6	1.94595
n _e	546.1	1.95828
n _F	486.1	1.98394
n _{F'}	480.0	1.98734
n _g	435.8	2.01848
n _h	404.7	2.05140
n _i	365.0	
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.1926	P' _{s,t}	0.1886
P _{C,s}	0.4383	P' _{C,s}	0.4714
P _{d,C}	0.2795	P' _{d,C'}	0.2314
P _{e,d}	0.2338	P' _{e,d}	0.2289
P _{g,F}	0.6552	P' _{g,F'}	0.5784
P _{i,h}		P' _{i,h}	

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0002	$\Delta P_{C,s}$	-0.0058
$\Delta P_{F,e}$	0.0070	$\Delta P_{g,F}$	0.0401

热性质 Thermal Properties

T _g (°C)	664
T _s (°C)	709
T _{1014.5} (°C)	620
T ₁₀₁₃ (°C)	652
T _{107.6} (°C)	769
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	60
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	73
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.973	0.946
2200	0.983	0.966
2000	0.993	0.987
1800	0.996	0.992
1600	0.998	0.996
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.998	0.997
900	0.998	0.996
850	0.997	0.995
800	0.997	0.995
700	0.996	0.993
650	0.995	0.991
600	0.994	0.989
550	0.989	0.979
500	0.973	0.946
480	0.960	0.921
460	0.941	0.886
440	0.908	0.825
420	0.837	0.700
400	0.486	0.236
390	0.158	0.025
380		
370		
360		
350		
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	2.04275300E+000
L1	1.69743001E-002
K2	1.98276200E+000
L2	1.09068153E+002
K3	5.04267871E-001
L3	7.51710758E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	1
CR	1
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-3.58E-06
D1	1.75E-08
D2	-4.67E-11
E0	1.18E-06
E1	1.91E-09
$\lambda_{TK}(\mu\text{m})$	0.330

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	520
FA	202
E(10 ⁷ Pa)	10881
G(10 ⁷ Pa)	4377
μ	0.243
B(10 ⁻¹² /Pa)	3.27

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-0.6	0.7	1.3	1.9	4.0	6.7
-40~-20	-0.4	1.0	1.7	2.6	4.6	7.8
-20~0	-0.4	1.3	2.1	3.0	5.2	8.7
0~20	-0.2	1.5	2.5	3.4	5.9	9.6
20~40	0.1	2.0	2.9	4.0	6.8	10.9
40~60	0.4	2.6	3.5	4.4	7.6	11.8
60~80	1.0	3.1	4.1	5.1	8.3	12.6
80~100	1.2	3.3	4.3	5.5	8.8	13.6
100~120	1.3	3.4	4.5	5.7	9.1	14.0
120~140	1.3	3.4	4.7	5.9	9.4	14.4

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	445/390

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.52
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退火增值系数 ECFA.

β	280
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备注 Remarks

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H-ZPK1S

618634

nd=

vd= 63.39

nF-nc= 0.00975

ne=

ve= 63.11

nF-nc'= 0.00983

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	
n _{1970.1}	1970.1	
n _{1529.6}	1529.6	
n _{1060.0}	1060.0	
n _t	1014.0	1.60693
n _s	852.1	1.60975
n _r	706.5	1.61334
nc	656.3	1.61503
nc'	643.9	1.61550
n _{He-Ne}	632.8	1.61594
n _D	589.3	1.61791
nd	587.6	1.61800
n _e	546.1	1.62032
n _F	486.1	1.62478
n _{F'}	480.0	1.62533
n _g	435.8	1.63004
n _h	404.7	1.63439
n _i	365.0	1.64177
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2892	P' _{s,t}	0.2869
P _{C,s}	0.5415	P' _{C,s}	0.5849
P _{d,C}	0.3046	P' _{d,C'}	0.2541
P _{e,d}	0.2387	P' _{e,d}	0.2367
P _{g,F}	0.5392	P' _{g,F'}	0.4788
P _{i,h}	0.7569	P' _{i,h}	0.7508

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0142	$\Delta P_{C,s}$	-0.0101
$\Delta P_{F,e}$	0.0016	$\Delta P_{g,F}$	0.0014

热性质 Thermal Properties

T _g (°C)	619
T _s (°C)	649
T _{1014.5} (°C)	572
T ₁₀₁₃ (°C)	600
T _{107.6} (°C)	711
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	99
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	110
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.894	0.800
2200	0.962	0.925
2000	0.989	0.978
1800	0.996	0.993
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.998	0.997
600	0.998	0.996
550	0.997	0.995
500	0.997	0.994
480	0.996	0.992
460	0.995	0.991
440	0.994	0.989
420	0.993	0.987
400	0.990	0.981
390	0.986	0.973
380	0.980	0.961
370	0.967	0.936
360	0.943	0.890
350	0.906	0.820
340	0.840	0.710
330	0.750	0.570
320	0.650	0.420
310	0.530	0.280
300	0.410	0.170
290	0.300	0.090
280	0.200	0.040

色散公式常数 Constants of Dispersion

A0	2.58079400E+000
A1	-1.12373121E-002
A2	1.28401965E-002
A3	5.66789531E-004
A4	-4.52545282E-005
A5	2.18559831E-006

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	
D1	
D2	
E0	
E1	
$\lambda_{TK}(\mu\text{m})$	

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	444
FA	195
E(10 ⁷ Pa)	7403
G(10 ⁷ Pa)	2869
μ	0.290
B(10 ⁻¹² /Pa)	1.26

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	-3.3	-3.1	-2.7	-2.5	-2.4	-2.2
-20~0	-3.2	-3.0	-2.6	-2.5	-2.4	-2.2
0~20	-3.3	-3.2	-3.0	-3.0	-2.9	-2.3
20~40	-3.5	-3.2	-3.1	-2.9	-2.6	-2.1
40~60	-3.1	-3.0	-2.6	-2.6	-2.3	-2.1
60~80	-2.9	-2.7	-2.5	-2.4	-2.2	-1.8
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	350/290
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.50
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退火增值系数 ECFA.

β	105
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备注 Remarks

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H-ZPK2S

603655

nd=

vd= 65.47

nF-nc= 0.00921

ne=

ve= 65.15

nF-nc'= 0.00929

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	
n _{1970.1}	1970.1	
n _{1529.6}	1529.6	
n _{1060.0}	1060.0	
n _t	1014.0	1.59256
n _s	852.1	1.59517
n _r	706.5	1.59858
nc	656.3	1.60019
nc'	643.9	1.60063
n _{He-Ne}	632.8	1.60105
n _D	589.3	1.60292
nd	587.6	1.60300
n _e	546.1	1.60520
n _F	486.1	1.60940
n _{F'}	480.0	1.60992
n _g	435.8	1.61438
n _h	404.7	1.61850
n _i	365.0	1.62550
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2834	P' _{s,t}	0.2809
P _{C,s}	0.5451	P' _{C,s}	0.5877
P _{d,C}	0.3051	P' _{d,C'}	0.2551
P _{e,d}	0.2389	P' _{e,d}	0.2368
P _{g,F}	0.5407	P' _{g,F'}	0.4801
P _{i,h}		P' _{i,h}	

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0263	$\Delta P_{C,s}$	-0.0115
$\Delta P_{F,e}$	0.0020	$\Delta P_{g,F}$	0.0065

热性质 Thermal Properties

T _g (°C)	619
T _s (°C)	648
T _{1014.5} (°C)	563
T ₁₀₁₃ (°C)	595
T _{107.6} (°C)	699
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	93
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	115
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.922	0.850
2200	0.943	0.889
2000	0.971	0.943
1800	0.985	0.970
1600	0.995	0.990
1400	0.998	0.997
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.997
650	0.998	0.997
600	0.998	0.997
550	0.998	0.997
500	0.997	0.995
480	0.997	0.994
460	0.996	0.993
440	0.995	0.990
420	0.995	0.990
400	0.992	0.984
390	0.987	0.975
380	0.978	0.957
370	0.961	0.923
360	0.926	0.857
350	0.862	0.743
340	0.751	0.564
330	0.581	0.337
320	0.361	0.130
310	0.164	0.027
300		
290		
280		

色散公式常数 Constants of Dispersion

A0	2.53073200E+000
A1	-8.34430009E-003
A2	1.46551859E-002
A3	-2.16647401E-004
A4	5.35525469E-005
A5	-2.46158288E-006

化学性质 Chemical Properties

Grade	
DW	1
DA	4
CR	1
RC(S)	3
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-1.22E-05
D1	1.14E-08
D2	-2.20E-11
E0	4.82E-07
E1	3.10E-10
$\lambda_{TK}(\mu\text{m})$	0.068

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	382
FA	273
E(10 ⁷ Pa)	6814
G(10 ⁷ Pa)	2651
μ	0.285
B(10 ⁻¹² /Pa)	1.10

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-4.1	-3.9	-3.8	-3.6	-3.5	-3.2
-40~-20	-4.2	-3.9	-3.8	-3.7	-3.5	-3.4
-20~0	-4.2	-3.8	-3.8	-3.7	-3.4	-3.4
0~20	-4.2	-3.8	-3.7	-3.7	-3.4	-3.3
20~40	-4.2	-3.8	-3.7	-3.6	-3.5	-3.2
40~60	-4.1	-3.8	-3.7	-3.6	-3.4	-3.2
60~80	-4.1	-3.8	-3.7	-3.6	-3.4	-3.0
80~100	-4.0	-3.8	-3.6	-3.6	-3.3	-3.0
100~120	-3.9	-3.7	-3.6	-3.5	-3.2	-2.9
120~140	-3.9	-3.7	-3.6	-3.4	-3.1	-2.9

着色度 Color Code

λ_{80}/λ_5	355/305
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.50
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退火增值系数 ECFA.

β	100
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备注 Remarks

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H-QK3LS

487704

nd=

vd= 70.44

nF-nc= 0.00692

ne=

ve= 70.26

nF-nc'= 0.00696

折射率 Refractive Index

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.46177
n _{1970.1}	1970.1	1.46737
n _{1529.6}	1529.6	1.47313
n _{1060.0}	1060.0	1.47856
n _t	1014.0	1.47913
n _s	852.1	1.48138
n _r	706.5	1.48410
nc	656.3	1.48535
nc'	643.9	1.48569
n _{He-Ne}	632.8	1.48601
n _D	589.3	1.48743
n _d	587.6	1.48749
n _e	546.1	1.48914
n _F	486.1	1.49227
n _{F'}	480.0	1.49265
n _g	435.8	1.49593
n _h	404.7	1.49894
n _i	365.0	1.50401
n _{313.2}	313.2	1.51414
n _{302.2}	302.2	1.51709

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.3251	P' _{s,t}	0.3232
P _{C,s}	0.5736	P' _{C,s}	0.6198
P _{d,C}	0.3096	P' _{d,C'}	0.2583
P _{e,d}	0.2388	P' _{e,d}	0.2374
P _{g,F}	0.5293	P' _{g,F'}	0.4707
P _{i,h}	0.7328	P' _{i,h}	0.7285

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0205	$\Delta P_{C,s}$	0.0053
$\Delta P_{F,e}$	0.0002	$\Delta P_{g,F}$	0.0035

热性质 Thermal Properties

T _g (°C)	475
T _s (°C)	569
T _{1014.5} (°C)	432
T ₁₀₁₃ (°C)	466
T _{107.6} (°C)	674
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	92
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	102
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.918	0.844
2200	0.938	0.879
2000	0.989	0.977
1800	0.994	0.989
1600	0.996	0.992
1400	0.990	0.980
1200	0.999	0.998
1060	0.999	0.999
1000	0.999	0.999
950	0.999	0.999
900	0.999	0.999
850	0.999	0.999
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.998	0.997
550	0.998	0.996
500	0.998	0.996
480	0.998	0.996
460	0.998	0.996
440	0.997	0.995
420	0.997	0.995
400	0.998	0.996
390	0.997	0.995
380	0.997	0.994
370	0.996	0.993
360	0.996	0.993
350	0.994	0.989
340	0.990	0.980
330	0.987	0.974
320	0.974	0.948
310	0.945	0.893
300	0.868	0.753
290	0.688	0.474
280	0.385	0.148

色散公式常数 Constants of Dispersion

K1	6.01737499E-001
L1	1.25749754E-002
K2	8.58736992E-001
L2	9.23325650E+001
K3	5.86761534E-001
L3	2.68750917E-003

化学性质 Chemical Properties

Grade	
DW	2
DA	4
CR	2
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	-9.26E-06
D1	1.71E-08
D2	-1.54E-11
E0	3.26E-07
E1	5.95E-10
$\lambda_{TK}(\mu\text{m})$	0.187

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	520
FA	93
E(10 ⁷ Pa)	6230
G(10 ⁷ Pa)	2540
μ	0.227
B(10 ⁻¹² /Pa)	2.80

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-2.6	-2.3	-2.2	-2.2	-2.0	-1.9
-40~-20	-2.5	-2.2	-2.1	-2.1	-2.0	-1.8
-20~0	-2.3	-2.1	-2.0	-2.0	-1.9	-1.7
0~20	-2.1	-2.0	-2.0	-1.9	-1.8	-1.6
20~40	-2.1	-1.9	-1.8	-1.8	-1.6	-1.5
40~60	-2.1	-1.9	-1.7	-1.7	-1.5	-1.4
60~80	-1.9	-1.9	-1.7	-1.6	-1.4	-1.1
80~100	-1.7	-1.6	-1.4	-1.3	-1.1	-0.8
100~120	-1.7	-1.3	-1.2	-1.2	-0.9	-0.7
120~140	-1.5	-1.1	-1.1	-1.1	-0.8	-0.6

着色度 Color Code

λ_{80}/λ_5	305/270
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	2.43
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退火增值系数 ECFA.

β	
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备注 Remarks

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D-K9S

516641

nd=

vd= 64.06

nF-nc= 0.00806

ne=

ve= 63.86

nF-nc'= 0.00812

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.48829
n _{1970.1}	1970.1	1.49417
n _{1529.6}	1529.6	1.50027
n _{1060.0}	1060.0	1.50616
n _t	1014.0	1.50678
n _s	852.1	1.50931
n _r	706.5	1.51241
nc	656.3	1.51385
nc'	643.9	1.51425
n _{He-Ne}	632.8	1.51462
n _D	589.3	1.51626
nd	587.6	1.51633
n _e	546.1	1.51825
n _F	486.1	1.52191
n _{F'}	480.0	1.52236
n _g	435.8	1.52621
n _h	404.7	1.52976
n _i	365.0	1.53576
n _{313.2}	313.2	1.54781
n _{302.2}	302.2	1.55135

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.3128	P' _{s,t}	0.3107
P _{C,s}	0.5635	P' _{C,s}	0.6087
P _{d,C}	0.3081	P' _{d,C'}	0.2569
P _{e,d}	0.2387	P' _{e,d}	0.2371
P _{g,F}	0.5339	P' _{g,F'}	0.4744
P _{i,h}	0.7444	P' _{i,h}	0.7394

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0282	$\Delta P_{C,s}$	0.0103
$\Delta P_{F,e}$	-0.0015	$\Delta P_{g,F}$	-0.0027

热性质 Thermal Properties

T _g (°C)	496
T _s (°C)	558
T _{1014.5} (°C)	451
T ₁₀₁₃ (°C)	483
T _{107.6} (°C)	637
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	63
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	78
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.918	0.842
2200	0.952	0.906
2000	0.989	0.978
1800	0.995	0.990
1600	0.997	0.995
1400	0.991	0.982
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.997
550	0.998	0.996
500	0.998	0.996
480	0.998	0.996
460	0.998	0.996
440	0.998	0.996
420	0.998	0.996
400	0.998	0.996
390	0.997	0.994
380	0.996	0.992
370	0.994	0.989
360	0.990	0.981
350	0.980	0.960
340	0.968	0.937
330	0.927	0.860
320	0.851	0.725
310	0.710	0.504
300	0.498	0.248
290	0.257	0.066
280		

色散公式常数 Constants of Dispersion

K1	5.67853808E-001
L1	2.38581607E-003
K2	7.02269733E-001
L2	1.35348346E-002
K3	1.08102500E+000
L3	1.07748222E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	2
CR	1
RC(S)	1
RA(S)	2

折射率温度系数常数 Constants of dn/dt

D0	4.87E-06
D1	1.55E-08
D2	-1.35E-11
E0	4.17E-07
E1	5.20E-10
$\lambda_{TK}(\mu m)$	0.177

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	492
FA	72
E(10 ⁷ Pa)	8318
G(10 ⁷ Pa)	3430
μ	0.212
B(10 ⁻¹² /Pa)	2.72

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	3.7	4.0	4.1	4.2	4.4	4.6
-40~-20	3.5	3.8	3.9	4.0	4.2	4.5
-20~0	3.6	3.8	3.9	4.0	4.2	4.6
0~20	3.6	3.9	4.0	4.1	4.3	4.7
20~40	3.7	4.0	4.1	4.3	4.5	4.8
40~60	3.8	4.1	4.2	4.5	4.6	4.9
60~80	3.8	4.2	4.3	4.5	4.8	5.0
80~100	3.9	4.4	4.5	4.7	5.0	5.3
100~120	4.1	4.5	4.6	4.7	5.1	5.5
120~140	4.3	4.7	4.8	4.9	5.3	5.6

着色度 Color Code

λ_{80}/λ_5	315/280
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	2.41
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-K9S-25

516640

nd=

vd= 63.99

nF-nc= 0.00806

ne=

ve= 63.79

nF-nc'= 0.00812

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.48773
n _{1970.1}	1970.1	1.49361
n _{1529.6}	1529.6	1.49971
n _{1060.0}	1060.0	1.50560
n _t	1014.0	1.50622
n _s	852.1	1.50875
n _r	706.5	1.51185
nc	656.3	1.51329
nc'	643.9	1.51369
n _{He-Ne}	632.8	1.51406
n _D	589.3	1.51570
nd	587.6	1.51577
n _e	546.1	1.51769
n _F	486.1	1.52135
n _{F'}	480.0	1.52180
n _g	435.8	1.52565
n _h	404.7	1.52920
n _i	365.0	1.53520
n _{313.2}	313.2	1.54725
n _{302.2}	302.2	1.55079

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.3128	P' _{s,t}	0.3107
P _{C,s}	0.5635	P' _{C,s}	0.6087
P _{d,C}	0.3081	P' _{d,C'}	0.2569
P _{e,d}	0.2387	P' _{e,d}	0.2371
P _{g,F}	0.5339	P' _{g,F'}	0.4744
P _{i,h}	0.7444	P' _{i,h}	0.7394

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0285	$\Delta P_{C,s}$	0.0105
$\Delta P_{F,e}$	-0.0016	$\Delta P_{g,F}$	-0.0029

热性质 Thermal Properties

T _g (°C)	496
T _s (°C)	558
T _{1014.5} (°C)	451
T ₁₀₁₃ (°C)	483
T _{107.6} (°C)	637
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	63
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	78
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.918	0.842
2200	0.952	0.906
2000	0.989	0.978
1800	0.995	0.990
1600	0.997	0.995
1400	0.991	0.982
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.997
550	0.998	0.996
500	0.998	0.996
480	0.998	0.996
460	0.998	0.996
440	0.998	0.996
420	0.998	0.996
400	0.998	0.996
390	0.997	0.994
380	0.996	0.992
370	0.994	0.989
360	0.990	0.981
350	0.980	0.960
340	0.968	0.937
330	0.927	0.860
320	0.851	0.725
310	0.710	0.504
300	0.498	0.248
290	0.257	0.066
280		

色散公式常数 Constants of Dispersion

K1	1.08234300E+000
L1	1.07907639E+002
K2	5.48438847E-001
L2	2.19092914E-003
K3	7.19999850E-001
L3	1.34070022E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	2
CR	1
RC(S)	1
RA(S)	2

折射率温度系数常数 Constants of dn/dt

D0	4.87E-06
D1	1.55E-08
D2	-1.35E-11
E0	4.17E-07
E1	5.20E-10
$\lambda_{TK}(\mu m)$	0.177

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	492
FA	72
E(10 ⁷ Pa)	8318
G(10 ⁷ Pa)	3430
μ	0.212
B(10 ⁻¹² /Pa)	2.72

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	3.7	4.0	4.1	4.2	4.4	4.6
-40~-20	3.5	3.8	3.9	4.0	4.2	4.5
-20~0	3.6	3.8	3.9	4.0	4.2	4.6
0~20	3.6	3.9	4.0	4.1	4.3	4.7
20~40	3.7	4.0	4.1	4.3	4.5	4.8
40~60	3.8	4.1	4.2	4.5	4.6	4.9
60~80	3.8	4.2	4.3	4.5	4.8	5.0
80~100	3.9	4.4	4.5	4.7	5.0	5.3
100~120	4.1	4.5	4.6	4.7	5.1	5.5
120~140	4.3	4.7	4.8	4.9	5.3	5.6

着色度 Color Code

λ_{80}/λ_5	315/280
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	2.41
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-PK3S

525704

nd=

vd= 70.37

nF-nc= 0.00746

ne=

ve= 70.16

nF-nc'= 0.00751

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.49822
n _{1970.1}	1970.1	1.50395
n _{1529.6}	1529.6	1.50985
n _{1060.0}	1060.0	1.51548
n _t	1014.0	1.51608
n _s	852.1	1.51845
n _r	706.5	1.52136
nc	656.3	1.52270
nc'	643.9	1.52307
n _{He-Ne}	632.8	1.52341
n _D	589.3	1.52493
nd	587.6	1.52500
n _e	546.1	1.52678
n _F	486.1	1.53016
n _{F'}	480.0	1.53057
n _g	435.8	1.53412
n _h	404.7	1.53737
n _i	365.0	1.54285
n _{313.2}	313.2	1.55381
n _{302.2}	302.2	1.55700

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.3185	P' _{s,t}	0.3165
P _{C,s}	0.5686	P' _{C,s}	0.6143
P _{d,C}	0.3089	P' _{d,C'}	0.2577
P _{e,d}	0.2387	P' _{e,d}	0.2372
P _{g,F}	0.5306	P' _{g,F'}	0.4718
P _{i,h}	0.7353	P' _{i,h}	0.7307

内透射率 Internal Transmittance

λ (nm)	τ 5mm	τ 10mm
2400	0.758	0.574
2200	0.810	0.656
2000	0.897	0.805
1800	0.945	0.892
1600	0.984	0.969
1400	0.998	0.997
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.996
650	0.998	0.996
600	0.998	0.996
550	0.998	0.996
500	0.996	0.992
480	0.994	0.989
460	0.994	0.988
440	0.994	0.988
420	0.994	0.988
400	0.994	0.988
390	0.993	0.986
380	0.990	0.980
370	0.984	0.969
360	0.975	0.950
350	0.956	0.913
340	0.916	0.839
330	0.833	0.693
320	0.686	0.471
310	0.469	0.220
300	0.235	0.055
290		
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0092	$\Delta P_{C,s}$	0.0004
$\Delta P_{F,e}$	0.0010	$\Delta P_{g,F}$	0.0048

热性质 Thermal Properties

T _g (°C)	545
T _s (°C)	592
T _{1014.5} (°C)	493
T ₁₀₁₃ (°C)	529
T _{107.6} (°C)	648
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	81
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	98
$\lambda(W/m\cdot K)$	

色散公式常数 Constants of Dispersion

K1	6.31688714E-001
L1	1.27792237E-002
K2	6.66896462E-001
L2	3.13927885E-003
K3	8.74644876E-001
L3	9.01740650E+001

化学性质 Chemical Properties

Grade	
DW	3
DA	3
CR	2
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-3.49E-06
D1	1.52E-08
D2	-7.04E-11
E0	4.13E-07
E1	3.57E-10
$\lambda_{TK}(\mu m)$	0.131

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	447
FA	136
E(10 ⁷ Pa)	7071
G(10 ⁷ Pa)	2863
μ	0.235
B(10 ⁻¹² /Pa)	2.22

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	-0.4	-0.1	0.1	0.2	0.3	0.5
-20~0	0.0	0.2	0.3	0.4	0.5	0.9
0~20	0.1	0.3	0.5	0.5	0.7	0.9
20~40	0.2	0.2	0.5	0.6	0.8	1.0
40~60	0.1	0.3	0.5	0.6	0.8	1.0
60~80	0.2	0.6	0.7	0.9	1.1	1.3
80~100						
100~120						
120~140						

着色度 Color Code

$\lambda_{80/\lambda 5}$	340/300
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(g/cm^3)$	2.65
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-PK3S-25

524703

nd=

vd= 70.27

nF-nc= 0.00745

ne=

ve= 70.07

nF-nc'= 0.00750

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.49698
n _{1970.1}	1970.1	1.50268
n _{1529.6}	1529.6	1.50856
n _{1060.0}	1060.0	1.51417
n _t	1014.0	1.51477
n _s	852.1	1.51714
n _r	706.5	1.52004
nc	656.3	1.52138
nc'	643.9	1.52175
n _{He-Ne}	632.8	1.52209
n _D	589.3	1.52361
nd	587.6	1.52368
n _e	546.1	1.52546
n _F	486.1	1.52883
n _{F'}	480.0	1.52925
n _g	435.8	1.53279
n _h	404.7	1.53604
n _i	365.0	1.54152
n _{313.2}	313.2	1.55246
n _{302.2}	302.2	1.55565

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.3183	P' _{s,t}	0.3163
P _{C,s}	0.5686	P' _{C,s}	0.6142
P _{d,C}	0.3089	P' _{d,C'}	0.2578
P _{e,d}	0.2387	P' _{e,d}	0.2372
P _{g,F}	0.5307	P' _{g,F'}	0.4719
P _{i,h}	0.7355	P' _{i,h}	0.7309

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0095	$\Delta P_{C,s}$	0.0007
$\Delta P_{F,e}$	0.0010	$\Delta P_{g,F}$	0.0047

热性质 Thermal Properties

T _g (°C)	545
T _s (°C)	592
T _{1014.5} (°C)	493
T ₁₀₁₃ (°C)	529
T _{107.6} (°C)	648
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	81
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	98
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.758	0.574
2200	0.810	0.656
2000	0.897	0.805
1800	0.945	0.892
1600	0.984	0.969
1400	0.998	0.997
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.996
650	0.998	0.996
600	0.998	0.996
550	0.998	0.996
500	0.996	0.992
480	0.994	0.989
460	0.994	0.988
440	0.994	0.988
420	0.994	0.988
400	0.994	0.988
390	0.993	0.986
380	0.990	0.980
370	0.984	0.969
360	0.975	0.950
350	0.956	0.913
340	0.916	0.839
330	0.833	0.693
320	0.686	0.471
310	0.469	0.220
300	0.235	0.055
290		
280		

色散公式常数 Constants of Dispersion

K1	5.13407648E-001
L1	1.73535477E-003
K2	9.23806369E-001
L2	9.53262250E+001
K3	7.81224847E-001
L3	1.18350228E-002

化学性质 Chemical Properties

Grade	
DW	3
DA	3
CR	2
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-3.49E-06
D1	1.52E-08
D2	-7.04E-11
E0	4.13E-07
E1	3.57E-10
$\lambda_{TK}(\mu\text{m})$	0.131

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	447
FA	136
E(10 ⁷ Pa)	7071
G(10 ⁷ Pa)	2863
μ	0.235
B(10 ⁻¹² /Pa)	2.22

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	-0.4	-0.1	0.1	0.2	0.3	0.5
-20~0	0.0	0.2	0.3	0.4	0.5	0.9
0~20	0.1	0.3	0.5	0.5	0.7	0.9
20~40	0.2	0.2	0.5	0.6	0.8	1.0
40~60	0.1	0.3	0.5	0.6	0.8	1.0
60~80	0.2	0.6	0.7	0.9	1.1	1.3
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	340/300
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	2.65
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-ZK2S

583594

nd=

vd= 59.38

nF-nc= 0.00982

ne=

ve= 59.14

nF-nc'= 0.00990

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.55336
n _{1970.1}	1970.1	1.55910
n _{1529.6}	1529.6	1.56514
n _{1060.0}	1060.0	1.57127
n _t	1014.0	1.57196
n _s	852.1	1.57479
n _r	706.5	1.57842
nc	656.3	1.58013
nc'	643.9	1.58061
n _{He-Ne}	632.8	1.58106
n _D	589.3	1.58304
nd	587.6	1.58313
n _e	546.1	1.58547
n _F	486.1	1.58995
n _{F'}	480.0	1.59051
n _g	435.8	1.59527
n _h	404.7	1.59967
n _i	365.0	1.60717
n _{313.2}	313.2	1.62237
n _{302.2}	302.2	1.62686

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2885	P' _{s,t}	0.2862
P _{C,s}	0.5443	P' _{C,s}	0.5881
P _{d,C}	0.3051	P' _{d,C'}	0.2544
P _{e,d}	0.2385	P' _{e,d}	0.2366
P _{g,F}	0.5412	P' _{g,F'}	0.4806
P _{i,h}	0.7630	P' _{i,h}	0.7569

内透射率 Internal Transmittance

λ (nm)	τ 5mm	τ 10mm
2400	0.897	0.804
2200	0.943	0.888
2000	0.983	0.966
1800	0.991	0.982
1600	0.996	0.992
1400	0.993	0.986
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.998	0.997
600	0.998	0.997
550	0.998	0.997
500	0.998	0.997
480	0.998	0.996
460	0.997	0.995
440	0.996	0.992
420	0.996	0.992
400	0.995	0.991
390	0.994	0.989
380	0.993	0.987
370	0.989	0.979
360	0.982	0.965
350	0.967	0.936
340	0.939	0.881
330	0.887	0.786
320	0.794	0.631
310	0.650	0.422
300	0.462	0.213
290	0.270	0.073
280	0.148	0.022

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0067	$\Delta P_{C,s}$	0.0022
$\Delta P_{F,e}$	-0.0009	$\Delta P_{g,F}$	-0.0033

热性质 Thermal Properties

T _g (°C)	501
T _s (°C)	545
T _{1014.5} (°C)	456
T ₁₀₁₃ (°C)	490
T _{107.6} (°C)	604
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	73
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	92
$\lambda(W/m\cdot K)$	

色散公式常数 Constants of Dispersion

K1	4.02765810E-001
L1	1.90634709E-002
K2	1.01706900E+000
L2	1.01270927E+002
K3	1.06495500E+000
L3	5.90052130E-003

化学性质 Chemical Properties

	Grade
DW	1
DA	6
CR	2
RC(S)	2
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	2.00E-06
D1	1.15E-08
D2	4.47E-11
E0	6.34E-07
E1	6.43E-10
$\lambda_{TK}(\mu m)$	0.089

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	610
FA	93
E(10 ⁷ Pa)	9044
G(10 ⁷ Pa)	3635
μ	0.244
B(10 ⁻¹² /Pa)	2.20

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	2.5	3.2	3.5	3.7	3.9	4.2
-20~0	2.4	3.1	3.3	3.5	3.9	4.2
0~20	2.7	3.1	3.4	3.5	3.8	4.2
20~40	2.7	3.1	3.5	3.6	3.9	4.2
40~60	2.8	3.2	3.4	3.6	3.9	4.3
60~80	3.1	3.5	3.8	4.1	4.4	4.6
80~100						
100~120						
120~140						

着色度 Color Code

$\lambda_{80/\lambda 5}$	335/285
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(g/cm^3)$	2.96
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退火增值系数 ECFA.

β	90
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备注 Remarks

*:退火速率 anneal rate 4°C



D-ZK2S-25

582593

nd=

vd= 59.31

nF-nc= 0.00982

ne=

ve= 59.07

nF-nc'= 0.00990

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.55267
n _{1970.1}	1970.1	1.55840
n _{1529.6}	1529.6	1.56443
n _{1060.0}	1060.0	1.57055
n _t	1014.0	1.57124
n _s	852.1	1.57407
n _r	706.5	1.57770
nc	656.3	1.57941
nc'	643.9	1.57989
n _{He-Ne}	632.8	1.58034
n _D	589.3	1.58232
nd	587.6	1.58241
n _e	546.1	1.58475
n _F	486.1	1.58923
n _{F'}	480.0	1.58979
n _g	435.8	1.59455
n _h	404.7	1.59895
n _i	365.0	1.60644
n _{313.2}	313.2	1.62164
n _{302.2}	302.2	1.62614

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2884	P' _{s,t}	0.2861
P _{C,s}	0.5441	P' _{C,s}	0.5880
P _{d,C}	0.3052	P' _{d,C'}	0.2544
P _{e,d}	0.2385	P' _{e,d}	0.2366
P _{g,F}	0.5412	P' _{g,F'}	0.4805
P _{i,h}	0.7629	P' _{i,h}	0.7568

内透射率 Internal Transmittance

λ (nm)	τ 5mm	τ 10mm
2400	0.897	0.804
2200	0.943	0.888
2000	0.983	0.966
1800	0.991	0.982
1600	0.996	0.992
1400	0.993	0.986
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.998	0.997
600	0.998	0.997
550	0.998	0.997
500	0.998	0.997
480	0.998	0.996
460	0.997	0.995
440	0.996	0.992
420	0.996	0.992
400	0.995	0.991
390	0.994	0.989
380	0.993	0.987
370	0.989	0.979
360	0.982	0.965
350	0.967	0.936
340	0.939	0.881
330	0.887	0.786
320	0.794	0.631
310	0.650	0.422
300	0.462	0.213
290	0.270	0.073
280	0.148	0.022

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0068	$\Delta P_{C,s}$	0.0021
$\Delta P_{F,e}$	-0.0010	$\Delta P_{g,F}$	-0.0035

热性质 Thermal Properties

T _g (°C)	501
T _s (°C)	545
T _{1014.5} (°C)	456
T ₁₀₁₃ (°C)	490
T _{107.6} (°C)	604
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	73
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	92
$\lambda(W/m\cdot K)$	

色散公式常数 Constants of Dispersion

K1	1.10449500E+000
L1	6.20948104E-003
K2	3.60941261E-001
L2	1.96844358E-002
K3	1.01208300E+000
L3	1.01038651E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	2
RC(S)	2
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	2.00E-06
D1	1.15E-08
D2	4.47E-11
E0	6.34E-07
E1	6.43E-10
$\lambda_{TK}(\mu m)$	0.089

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	610
FA	93
E(10 ⁷ Pa)	9044
G(10 ⁷ Pa)	3635
μ	0.244
B(10 ⁻¹² /Pa)	2.20

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	2.5	3.2	3.5	3.7	3.9	4.2
-20~0	2.4	3.1	3.3	3.5	3.9	4.2
0~20	2.7	3.1	3.4	3.5	3.8	4.2
20~40	2.7	3.1	3.5	3.6	3.9	4.2
40~60	2.8	3.2	3.4	3.6	3.9	4.3
60~80	3.1	3.5	3.8	4.1	4.4	4.6
80~100						
100~120						
120~140						

着色度 Color Code

$\lambda_{80/\lambda 5}$	335/285
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(g/cm^3)$	2.96
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退火增值系数 ECFA.

β	90
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备注 Remarks

*:退火速率 anneal rate 25°C



D-ZK3S

589612

nd=

vd= 61.15

nF-nc= 0.00963

ne=

ve= 60.95

nF-nc'= 0.00970

折射率 Refractive Index*

	$\lambda(\text{nm})$	
n _{2325.4}	2325.4	1.55735
n _{1970.1}	1970.1	1.56384
n _{1529.6}	1529.6	1.57058
n _{1060.0}	1060.0	1.57718
n _t	1014.0	1.57790
n _s	852.1	1.58082
n _r	706.5	1.58447
nc	656.3	1.58617
nc'	643.9	1.58665
n _{He-Ne}	632.8	1.58709
n _D	589.3	1.58904
nd	587.6	1.58913
n _e	546.1	1.59143
n _F	486.1	1.59581
n _{F'}	480.0	1.59635
n _g	435.8	1.60097
n _h	404.7	1.60524
n _i	365.0	1.61247
n _{313.2}	313.2	1.62705
n _{302.2}	302.2	1.63135

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.3026	P' _{s,t}	0.3004
P _{C,s}	0.5558	P' _{C,s}	0.6006
P _{d,C}	0.3069	P' _{d,C'}	0.2560
P _{e,d}	0.2386	P' _{e,d}	0.2369
P _{g,F}	0.5362	P' _{g,F'}	0.4764
P _{i,h}	0.7504	P' _{i,h}	0.7450

内透射率 Internal Transmittance

$\lambda(\text{nm})$	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.830	0.690
2200	0.916	0.839
2000	0.977	0.954
1800	0.989	0.979
1600	0.998	0.996
1400	0.994	0.989
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.998
550	0.999	0.998
500	0.998	0.997
480	0.998	0.996
460	0.998	0.996
440	0.997	0.995
420	0.997	0.994
400	0.995	0.991
390	0.993	0.987
380	0.990	0.980
370	0.983	0.966
360	0.967	0.936
350	0.939	0.882
340	0.880	0.780
330	0.790	0.630
320	0.660	0.430
310	0.470	0.220
300	0.280	0.080
290	0.130	0.020
280		

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0240	$\Delta P_{C,s}$	0.0095
$\Delta P_{F,e}$	-0.0019	$\Delta P_{g,F}$	-0.0053

热性质 Thermal Properties

T _g (°C)	515
T _s (°C)	560
T _{1014.5} (°C)	471
T ₁₀₁₃ (°C)	499
T _{107.6} (°C)	605
$\alpha_{-30/70^\circ\text{C}}(10^{-7}/\text{K})$	72
$\alpha_{100/300^\circ\text{C}}(10^{-7}/\text{K})$	93
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

色散公式常数 Constants of Dispersion

K1	1.33936800E+000
L1	7.60612311E-003
K2	1.48690268E-001
L2	2.38444656E-002
K3	1.00954000E+000
L3	8.90419770E+001

化学性质 Chemical Properties

Grade	
DW	3
DA	6
CR	4c
RC(S)	2
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	1.68E-06
D1	9.68E-09
D2	-2.00E-11
E0	5.34E-07
E1	1.41E-09
$\lambda_{TK}(\mu\text{m})$	0.172

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	628
FA	125
E(10 ⁷ Pa)	9767
G(10 ⁷ Pa)	3958
μ	0.234
B(10 ⁻¹² /Pa)	2.08

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	2.5	3.0	3.1	3.2	3.4	3.5
-20~0	2.3	2.8	2.9	3.3	3.5	3.7
0~20	2.5	2.8	3.2	3.4	3.5	3.8
20~40	2.3	3.1	3.0	3.2	3.7	4.6
40~60	2.6	3.0	3.1	3.1	3.9	3.9
60~80	3.1	3.3	3.4	3.4	3.8	3.9
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_5	345/295
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	2.83
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退火增值系数 ECFA.

β	100
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备注 Remarks

*:退火速率 anneal rate 4°C



D-ZK3S-25

588613

nd=

vd= 61.28

nF-nc= 0.00960

ne=

ve= 61.08

nF-nc'= 0.00967

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.55659
n _{1970.1}	1970.1	1.56306
n _{1529.6}	1529.6	1.56980
n _{1060.0}	1060.0	1.57642
n _t	1014.0	1.57714
n _s	852.1	1.58005
n _r	706.5	1.58369
nc	656.3	1.58539
nc'	643.9	1.58586
n _{He-Ne}	632.8	1.58630
n _D	589.3	1.58824
n _d	587.6	1.58833
n _e	546.1	1.59062
n _F	486.1	1.59499
n _{F'}	480.0	1.59553
n _g	435.8	1.60014
n _h	404.7	1.60441
n _i	365.0	1.61164
n _{313.2}	313.2	1.62625
n _{302.2}	302.2	1.63056

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.3032	P' _{s,t}	0.3010
P _{C,s}	0.5555	P' _{C,s}	0.6003
P _{d,C}	0.3068	P' _{d,C'}	0.2557
P _{e,d}	0.2385	P' _{e,d}	0.2368
P _{g,F}	0.5374	P' _{g,F'}	0.4775
P _{i,h}	0.7537	P' _{i,h}	0.7483

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0237	$\Delta P_{C,s}$	0.0089
$\Delta P_{F,e}$	-0.0016	$\Delta P_{g,F}$	-0.0039

热性质 Thermal Properties

T _g (°C)	515
T _s (°C)	560
T _{1014.5} (°C)	471
T ₁₀₁₃ (°C)	499
T _{107.6} (°C)	605
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	72
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	93
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.830	0.690
2200	0.916	0.839
2000	0.977	0.954
1800	0.989	0.979
1600	0.998	0.996
1400	0.994	0.989
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.998
550	0.999	0.998
500	0.998	0.997
480	0.998	0.996
460	0.998	0.996
440	0.997	0.995
420	0.997	0.994
400	0.995	0.991
390	0.993	0.987
380	0.990	0.980
370	0.983	0.966
360	0.967	0.936
350	0.939	0.882
340	0.880	0.780
330	0.790	0.630
320	0.660	0.430
310	0.470	0.220
300	0.280	0.080
290	0.130	0.020
280		

色散公式常数 Constants of Dispersion

K1	1.24347600E+000
L1	1.08031441E+002
K2	9.18798447E-001
L2	1.39520420E-002
K3	5.67180097E-001
L3	1.27620029E-003

化学性质 Chemical Properties

Grade	
DW	3
DA	6
CR	4c
RC(S)	2
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	1.68E-06
D1	9.68E-09
D2	-2.00E-11
E0	5.34E-07
E1	1.41E-09
$\lambda_{TK}(\mu\text{m})$	0.172

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	628
FA	125
E(10 ⁷ Pa)	9767
G(10 ⁷ Pa)	3958
μ	0.234
B(10 ⁻¹² /Pa)	2.08

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	2.5	3.0	3.1	3.2	3.4	3.5
-20~0	2.3	2.8	2.9	3.3	3.5	3.7
0~20	2.5	2.8	3.2	3.4	3.5	3.8
20~40	2.3	3.1	3.0	3.2	3.7	4.6
40~60	2.6	3.0	3.1	3.1	3.9	3.9
60~80	3.1	3.3	3.4	3.4	3.8	3.9
80~100						
100~120						
120~140						

着色度 Color Code

$\lambda_{80/\lambda 5}$	345/295
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	2.83
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退火增值系数 ECFA.

β	100
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备注 Remarks

*:退火速率 anneal rate 25°C



D-ZK79S

609579

nd=

vd= 57.90

nF-nc= 0.01052

ne=

ve= 57.63

nF-nc'= 0.01061

折射率 Refractive Index*

	λ(nm)	
n _{2325.4}	2325.4	1.57898
n _{1970.1}	1970.1	1.58446
n _{1529.6}	1529.6	1.59030
n _{1060.0}	1060.0	1.59640
n _t	1014.0	1.59710
n _s	852.1	1.60003
n _r	706.5	1.60385
nc	656.3	1.60567
nc'	643.9	1.60617
n _{He-Ne}	632.8	1.60665
n _D	589.3	1.60877
n _d	587.6	1.60886
n _e	546.1	1.61137
n _F	486.1	1.61618
n _{F'}	480.0	1.61678
n _g	435.8	1.62191
n _h	404.7	1.62667
n _i	365.0	1.63478
n _{313.2}	313.2	1.65128
n _{302.2}	302.2	1.65617

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2785	P' _{s,t}	0.2761
P _{C,s}	0.5360	P' _{C,s}	0.5793
P _{d,C}	0.3038	P' _{d,C'}	0.2533
P _{e,d}	0.2384	P' _{e,d}	0.2363
P _{g,F}	0.5447	P' _{g,F'}	0.4834
P _{i,h}	0.7713	P' _{i,h}	0.7646

内透射率 Internal Transmittance

λ(nm)	τ5mm	τ10mm
2400	0.916	0.839
2200	0.964	0.929
2000	0.987	0.974
1800	0.994	0.988
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.997
650	0.998	0.996
600	0.998	0.996
550	0.999	0.998
500	0.998	0.997
480	0.998	0.995
460	0.997	0.993
440	0.996	0.992
420	0.996	0.992
400	0.995	0.991
390	0.993	0.986
380	0.989	0.979
370	0.981	0.963
360	0.963	0.927
350	0.930	0.866
340	0.869	0.755
330	0.766	0.587
320	0.614	0.377
310	0.430	0.180
300	0.250	0.060
290		
280		

异常色散 Abnormal Dispersions

ΔP _{C,t}	-0.0045	ΔP _{C,s}	-0.0026
ΔP _{F,e}	-0.0003	ΔP _{g,F}	-0.0024

热性质 Thermal Properties

T _g (°C)	509
T _s (°C)	551
T _{1014.5} (°C)	468
T ₁₀₁₃ (°C)	500
T _{107.6} (°C)	619
α _{-30/70°C} (10 ⁻⁷ /K)	81
α _{100/300°C} (10 ⁻⁷ /K)	99
λ(W/m·K)	

色散公式常数 Constants of Dispersion

K1	7.56950915E-001
L1	3.14479019E-003
K2	7.88924515E-001
L2	1.62552483E-002
K3	1.10449900E+000
L3	1.12960365E+002

化学性质 Chemical Properties

	Grade
DW	2
DA	2
CR	4b
RC(S)	3
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	6.70E-07
D1	1.89E-08
D2	-2.68E-10
E0	2.21E-07
E1	1.09E-09
λ _{TK} (μm)	0.312

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	586
FA	141
E(10 ⁷ Pa)	9301
G(10 ⁷ Pa)	3684
μ	0.262
B(10 ⁻¹² /Pa)	1.83

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	q
-60~-40						
-40~-20	0.7	1.0	1.3	1.5	1.7	1.8
-20~0	1.4	1.7	1.9	2.0	2.3	2.8
0~20	1.6	1.8	2.0	2.1	2.4	2.9
20~40	1.7	2.0	2.3	2.3	2.7	3.0
40~60	1.8	2.1	2.3	2.5	2.9	3.2
60~80	1.8	2.2	2.3	2.5	3.0	3.3
80~100						
100~120						
120~140						

着色度 Color Code

λ80/λ5	350/295
λ70/λ5	

其他性质 Other Properties

ρ(g/cm ³)	3.19
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-ZK79S-25

608578

nd=

vd= 57.82

nF-nc= 0.01052

ne=

ve= 57.55

nF-nc'= 0.01061

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.57821
n _{1970.1}	1970.1	1.58369
n _{1529.6}	1529.6	1.58953
n _{1060.0}	1060.0	1.59563
n _t	1014.0	1.59633
n _s	852.1	1.59926
n _r	706.5	1.60308
nc	656.3	1.60490
nc'	643.9	1.60540
n _{He-Ne}	632.8	1.60588
n _D	589.3	1.60800
nd	587.6	1.60809
n _e	546.1	1.61060
n _F	486.1	1.61541
n _{F'}	480.0	1.61601
n _g	435.8	1.62114
n _h	404.7	1.62590
n _i	365.0	1.63401
n _{313.2}	313.2	1.65051
n _{302.2}	302.2	1.65540

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2785	P' _{s,t}	0.2761
P _{C,s}	0.5360	P' _{C,s}	0.5792
P _{d,C}	0.3038	P' _{d,C'}	0.2533
P _{e,d}	0.2385	P' _{e,d}	0.2364
P _{g,F}	0.5446	P' _{g,F'}	0.4834
P _{i,h}	0.7712	P' _{i,h}	0.7645

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0042	$\Delta P_{C,s}$	-0.0025
$\Delta P_{F,e}$	-0.0004	$\Delta P_{g,F}$	-0.0026

热性质 Thermal Properties

T _g (°C)	509
T _s (°C)	551
T _{1014.5} (°C)	468
T ₁₀₁₃ (°C)	500
T _{107.6} (°C)	619
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	81
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	99
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.916	0.839
2200	0.964	0.929
2000	0.987	0.974
1800	0.994	0.988
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.997
650	0.998	0.996
600	0.998	0.996
550	0.999	0.998
500	0.998	0.997
480	0.998	0.995
460	0.997	0.993
440	0.996	0.992
420	0.996	0.992
400	0.995	0.991
390	0.993	0.986
380	0.989	0.979
370	0.981	0.963
360	0.963	0.927
350	0.930	0.866
340	0.869	0.755
330	0.766	0.587
320	0.614	0.377
310	0.430	0.180
300	0.250	0.060
290		
280		

色散公式常数 Constants of Dispersion

K1	7.54687309E-001
L1	3.15353228E-003
K2	7.88729250E-001
L2	1.62517875E-002
K3	1.10213800E+000
L3	1.12786362E+002

化学性质 Chemical Properties

Grade	
DW	2
DA	2
CR	4b
RC(S)	3
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	6.70E-07
D1	1.89E-08
D2	-2.68E-10
E0	2.21E-07
E1	1.09E-09
$\lambda_{TK}(\mu m)$	0.312

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	586
FA	141
E(10 ⁷ Pa)	9301
G(10 ⁷ Pa)	3684
μ	0.262
B(10 ⁻¹² /Pa)	1.83

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	0.7	1.0	1.3	1.5	1.7	1.8
-20~0	1.4	1.7	1.9	2.0	2.3	2.8
0~20	1.6	1.8	2.0	2.1	2.4	2.9
20~40	1.7	2.0	2.3	2.3	2.7	3.0
40~60	1.8	2.1	2.3	2.5	2.9	3.2
60~80	1.8	2.2	2.3	2.5	3.0	3.3
80~100						
100~120						
120~140						

着色度 Color Code

$\lambda_{80/\lambda 5}$	350/295
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(g/cm^3)$	3.19
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-ZPK1S

621638

nd=

vd= 63.83

nF-nc= 0.00973

ne=

ve= 63.51

nF-nc' = 0.00981

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.59425
n _{1970.1}	1970.1	1.59896
n _{1529.6}	1529.6	1.60402
n _{1060.0}	1060.0	1.60942
n _t	1014.0	1.61006
n _s	852.1	1.61272
n _r	706.5	1.61624
nc	656.3	1.61791
nc'	643.9	1.61838
n _{He-Ne}	632.8	1.61882
n _D	589.3	1.62078
nd	587.6	1.62087
n _e	546.1	1.62319
n _F	486.1	1.62764
n _{F'}	480.0	1.62820
n _g	435.8	1.63293
n _h	404.7	1.63730
n _i	365.0	1.64474
n _{313.2}	313.2	1.65974
n _{302.2}	302.2	1.66415

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2740	P' _{s,t}	0.2716
P _{C,s}	0.5338	P' _{C,s}	0.5770
P _{d,C}	0.3039	P' _{d,C'}	0.2534
P _{e,d}	0.2385	P' _{e,d}	0.2364
P _{g,F}	0.5433	P' _{g,F'}	0.4821
P _{i,h}	0.7642	P' _{i,h}	0.7575

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0393	$\Delta P_{C,s}$	-0.0189
$\Delta P_{F,e}$	0.0027	$\Delta P_{g,F}$	0.0063

热性质 Thermal Properties

T _g (°C)	546
T _s (°C)	580
T _{1014.5} (°C)	502
T ₁₀₁₃ (°C)	531
T _{107.6} (°C)	645
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	105
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	128
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.956	0.913
2200	0.970	0.942
2000	0.986	0.972
1800	0.992	0.985
1600	0.997	0.995
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.997
700	0.998	0.997
650	0.997	0.995
600	0.998	0.996
550	0.998	0.996
500	0.997	0.995
480	0.997	0.994
460	0.996	0.993
440	0.995	0.990
420	0.994	0.989
400	0.991	0.983
390	0.986	0.973
380	0.977	0.955
370	0.957	0.915
360	0.916	0.839
350	0.842	0.710
340	0.730	0.530
330	0.560	0.310
320	0.400	0.160
310	0.240	0.060
300	0.170	0.030
290		
280		

色散公式常数 Constants of Dispersion

K1	7.23324537E-001
L1	2.88945762E-003
K2	8.63552511E-001
L2	1.42439399E-002
K3	9.85077202E-001
L3	1.16596916E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	4
CR	1
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-1.27E-05
D1	7.36E-09
D2	-1.75E-13
E0	4.58E-07
E1	2.54E-10
$\lambda_{TK}(\mu m)$	0.183

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	
FA	340
E(10 ⁷ Pa)	7911
G(10 ⁷ Pa)	3073
μ	0.287
B(10 ⁻¹² /Pa)	0.87

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-4.1	-3.6	-3.8	-3.4	-3.3	-2.8
-40~-20	-4.3	-3.9	-3.9	-3.7	-3.5	-3.2
-20~0	-4.4	-4.1	-4.0	-3.9	-3.6	-3.4
0~20	-4.5	-4.3	-4.1	-4.0	-3.8	-3.5
20~40	-4.6	-4.4	-4.2	-4.1	-3.9	-3.5
40~60	-4.7	-4.4	-4.2	-4.0	-3.7	-3.5
60~80	-4.5	-4.2	-4.0	-4.0	-3.6	-3.3
80~100	-4.5	-4.2	-4.0	-4.0	-3.6	-3.3
100~120	-4.5	-4.1	-4.0	-4.0	-3.6	-3.3
120~140	-4.5	-4.1	-4.0	-4.0	-3.6	-3.3

着色度 Color Code

λ_{80}/λ_5	360/-
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	3.69
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-ZPK1S-25

620638

nd=

vd= 63.76

nF-nc= 0.00972

ne=

ve= 63.45

nF-nc'= 0.00981

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.59341
n _{1970.1}	1970.1	1.59812
n _{1529.6}	1529.6	1.60317
n _{1060.0}	1060.0	1.60856
n _t	1014.0	1.60919
n _s	852.1	1.61185
n _r	706.5	1.61536
nc	656.3	1.61704
nc'	643.9	1.61751
n _{He-Ne}	632.8	1.61794
n _D	589.3	1.61990
n _d	587.6	1.61999
n _e	546.1	1.62231
n _F	486.1	1.62676
n _{F'}	480.0	1.62731
n _g	435.8	1.63204
n _h	404.7	1.63642
n _i	365.0	1.64385
n _{313.2}	313.2	1.65884
n _{302.2}	302.2	1.66325

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2737	P' _{s,t}	0.2713
P _{C,s}	0.5334	P' _{C,s}	0.5768
P _{d,C}	0.3039	P' _{d,C'}	0.2534
P _{e,d}	0.2385	P' _{e,d}	0.2364
P _{g,F}	0.5433	P' _{g,F'}	0.4822
P _{i,h}	0.7642	P' _{i,h}	0.7576

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0396	$\Delta P_{C,s}$	-0.0191
$\Delta P_{F,e}$	0.0027	$\Delta P_{g,F}$	0.0062

热性质 Thermal Properties

T _g (°C)	546
T _s (°C)	580
T _{1014.5} (°C)	502
T ₁₀₁₃ (°C)	531
T _{107.6} (°C)	645
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	105
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	128
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.956	0.913
2200	0.970	0.942
2000	0.986	0.972
1800	0.992	0.985
1600	0.997	0.995
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.997
700	0.998	0.997
650	0.997	0.995
600	0.998	0.996
550	0.998	0.996
500	0.997	0.995
480	0.997	0.994
460	0.996	0.993
440	0.995	0.990
420	0.994	0.989
400	0.991	0.983
390	0.986	0.973
380	0.977	0.955
370	0.957	0.915
360	0.916	0.839
350	0.842	0.710
340	0.730	0.530
330	0.560	0.310
320	0.400	0.160
310	0.240	0.060
300	0.170	0.030
290		
280		

色散公式常数 Constants of Dispersion

K1	8.60621452E-001
L1	1.42471958E-002
K2	7.23408639E-001
L2	2.93226377E-003
K3	9.15278852E-001
L3	1.09074608E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	4
CR	1
RC(S)	1
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-1.27E-05
D1	7.36E-09
D2	-1.75E-13
E0	4.58E-07
E1	2.54E-10
$\lambda_{TK}(\mu m)$	0.183

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	
FA	340
E(10 ⁷ Pa)	7911
G(10 ⁷ Pa)	3073
μ	0.287
B(10 ⁻¹² /Pa)	0.87

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-4.1	-3.6	-3.8	-3.4	-3.3	-2.8
-40~-20	-4.3	-3.9	-3.9	-3.7	-3.5	-3.2
-20~0	-4.4	-4.1	-4.0	-3.9	-3.6	-3.4
0~20	-4.5	-4.3	-4.1	-4.0	-3.8	-3.5
20~40	-4.6	-4.4	-4.2	-4.1	-3.9	-3.5
40~60	-4.7	-4.4	-4.2	-4.0	-3.7	-3.5
60~80	-4.5	-4.2	-4.0	-4.0	-3.6	-3.3
80~100	-4.5	-4.2	-4.0	-4.0	-3.6	-3.3
100~120	-4.5	-4.1	-4.0	-4.0	-3.6	-3.3
120~140	-4.5	-4.1	-4.0	-4.0	-3.6	-3.3

着色度 Color Code

λ_{80}/λ_5	360/-
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	3.69
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-LaK5S

678549

nd=

vd= 54.89

nF-nc= 0.01235

ne=

ve= 54.65

nF-nc'= 0.01246

折射率 Refractive Index*

	λ(nm)	
n _{2325.4}	2325.4	1.64148
n _{1970.1}	1970.1	1.64840
n _{1529.6}	1529.6	1.65570
n _{1060.0}	1060.0	1.66316
n _t	1014.0	1.66400
n _s	852.1	1.66750
n _r	706.5	1.67201
nc	656.3	1.67415
nc'	643.9	1.67474
n _{He-Ne}	632.8	1.67530
n _D	589.3	1.67779
nd	587.6	1.67790
n _e	546.1	1.68084
n _F	486.1	1.68650
n _{F'}	480.0	1.68720
n _g	435.8	1.69323
n _h	404.7	1.69884
n _i	365.0	1.70842
n _{313.2}	313.2	1.72800
n _{302.2}	302.2	1.73382

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2829	P' _{s,t}	0.2805
P _{C,s}	0.5385	P' _{C,s}	0.5817
P _{d,C}	0.3039	P' _{d,C'}	0.2533
P _{e,d}	0.2384	P' _{e,d}	0.2363
P _{g,F}	0.5455	P' _{g,F'}	0.4842
P _{i,h}	0.7757	P' _{i,h}	0.7690

异常色散 Abnormal Dispersions

ΔP _{C,t}	0.0165	ΔP _{C,s}	0.0069
ΔP _{F,e}	-0.0020	ΔP _{g,F}	-0.0067

热性质 Thermal Properties

T _g (°C)	539
T _s (°C)	578
T _{1014.5} (°C)	499
T ₁₀₁₃ (°C)	525
T _{107.6} (°C)	625
α _{-30/70°C} (10 ⁻⁷ /K)	73
α _{100/300°C} (10 ⁻⁷ /K)	94
λ(W/m·K)	

内透射率 Internal Transmittance

λ(nm)	τ _{5mm}	τ _{10mm}
2400	0.848	0.719
2200	0.959	0.919
2000	0.986	0.972
1800	0.995	0.990
1600	0.998	0.997
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.998	0.997
550	0.998	0.997
500	0.998	0.996
480	0.997	0.995
460	0.997	0.995
440	0.997	0.994
420	0.996	0.993
400	0.996	0.993
390	0.995	0.991
380	0.992	0.985
370	0.988	0.976
360	0.981	0.962
350	0.966	0.933
340	0.944	0.891
330	0.907	0.822
320	0.854	0.729
310	0.783	0.613
300	0.694	0.482
290	0.595	0.354
280	0.481	0.231

色散公式常数 Constants of Dispersion

K1	6.05031610E-001
L1	2.87640400E-008
K2	1.15901900E+000
L2	1.58370528E-002
K3	1.30308800E+000
L3	1.01946510E+002

化学性质 Chemical Properties

	Grade
DW	1
DA	3
CR	1
RC(S)	4
RA(S)	4

折射率温度系数常数 Constants of dn/dt

D0	1.76E-06
D1	1.72E-08
D2	-6.77E-11
E0	3.92E-07
E1	6.44E-10
λ _{TK} (μm)	0.230

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	647
FA	139
E(10 ⁷ Pa)	11292
G(10 ⁷ Pa)	4439
μ	0.272
B(10 ⁻¹² /Pa)	1.89

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	q
-60~-40						
-40~-20	1.8	2.4	2.6	2.7	3.2	3.6
-20~0	2.5	2.6	2.7	3.0	3.2	3.7
0~20	2.7	3.0	3.3	3.4	3.7	3.8
20~40	2.8	3.2	3.5	3.6	3.8	4.2
40~60	2.9	3.3	3.5	3.7	4.0	4.5
60~80	2.9	3.3	3.6	3.8	4.3	5.0
80~100						
100~120						
120~140						

着色度 Color Code

λ ₈₀ /λ ₅	345/265
λ ₇₀ /λ ₅	

其他性质 Other Properties

ρ(g/cm ³)	3.37
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-LaK5S-25

677548

nd=

vd= 54.81

nF-nc= 0.01235

ne=

ve= 54.57

nF-nc'= 0.01246

折射率 Refractive Index*

	λ(nm)	
n _{2325.4}	2325.4	1.64044
n _{1970.1}	1970.1	1.64736
n _{1529.6}	1529.6	1.65466
n _{1060.0}	1060.0	1.66212
n _t	1014.0	1.66296
n _s	852.1	1.66646
n _r	706.5	1.67097
nc	656.3	1.67311
nc'	643.9	1.67370
n _{He-Ne}	632.8	1.67426
n _D	589.3	1.67675
nd	587.6	1.67686
n _e	546.1	1.67980
n _F	486.1	1.68546
n _{F'}	480.0	1.68616
n _g	435.8	1.69219
n _h	404.7	1.69780
n _i	365.0	1.70738
n _{313.2}	313.2	1.72696
n _{302.2}	302.2	1.73278

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2829	P' _{s,t}	0.2805
P _{C,s}	0.5385	P' _{C,s}	0.5817
P _{d,C}	0.3039	P' _{d,C'}	0.2533
P _{e,d}	0.2384	P' _{e,d}	0.2363
P _{g,F}	0.5455	P' _{g,F'}	0.4842
P _{i,h}	0.7757	P' _{i,h}	0.7690

异常色散 Abnormal Dispersions

ΔP _{C,t}	0.0169	ΔP _{C,s}	0.0071
ΔP _{F,e}	-0.0020	ΔP _{g,F}	-0.0069

热性质 Thermal Properties

T _g (°C)	539
T _s (°C)	578
T _{1014.5} (°C)	499
T ₁₀₁₃ (°C)	525
T _{107.6} (°C)	625
α _{-30/70°C} (10 ⁻⁷ /K)	73
α _{100/300°C} (10 ⁻⁷ /K)	94
λ(W/m·K)	

内透射率 Internal Transmittance

λ(nm)	τ _{5mm}	τ _{10mm}
2400	0.848	0.719
2200	0.959	0.919
2000	0.986	0.972
1800	0.995	0.990
1600	0.998	0.997
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.998	0.997
550	0.998	0.997
500	0.998	0.996
480	0.997	0.995
460	0.997	0.995
440	0.997	0.994
420	0.996	0.993
400	0.996	0.993
390	0.995	0.991
380	0.992	0.985
370	0.988	0.976
360	0.981	0.962
350	0.966	0.933
340	0.944	0.891
330	0.907	0.822
320	0.854	0.729
310	0.783	0.613
300	0.694	0.482
290	0.595	0.354
280	0.481	0.231

色散公式常数 Constants of Dispersion

K1	6.02363527E-001
L1	3.07499839E-008
K2	1.15823000E+000
L2	1.58379357E-002
K3	1.30267200E+000
L3	1.01976303E+002

化学性质 Chemical Properties

	Grade
DW	1
DA	3
CR	1
RC(S)	4
RA(S)	4

折射率温度系数常数 Constants of dn/dt

D0	1.76E-06
D1	1.72E-08
D2	-6.77E-11
E0	3.92E-07
E1	6.44E-10
λ _{TK} (μm)	0.230

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	647
FA	139
E(10 ⁷ Pa)	11292
G(10 ⁷ Pa)	4439
μ	0.272
B(10 ⁻¹² /Pa)	1.89

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	1.8	2.4	2.6	2.7	3.2	3.6
-20~0	2.5	2.6	2.7	3.0	3.2	3.7
0~20	2.7	3.0	3.3	3.4	3.7	3.8
20~40	2.8	3.2	3.5	3.6	3.8	4.2
40~60	2.9	3.3	3.5	3.7	4.0	4.5
60~80	2.9	3.3	3.6	3.8	4.3	5.0
80~100						
100~120						
120~140						

着色度 Color Code

λ ₈₀ /λ ₅	345/265
λ ₇₀ /λ ₅	

其他性质 Other Properties

ρ(g/cm ³)	3.37
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-LaK6S

694531

nd=

vd= 53.13

nF-nc= 0.01306

ne=

ve= 52.90

nF-nc'= 0.01318

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.65619
n _{1970.1}	1970.1	1.66325
n _{1529.6}	1529.6	1.67069
n _{1060.0}	1060.0	1.67836
n _t	1014.0	1.67924
n _s	852.1	1.68289
n _r	706.5	1.68763
nc	656.3	1.68988
nc'	643.9	1.69051
n _{He-Ne}	632.8	1.69110
n _D	589.3	1.69372
nd	587.6	1.69384
n _e	546.1	1.69695
n _F	486.1	1.70294
n _{F'}	480.0	1.70368
n _g	435.8	1.71008
n _h	404.7	1.71604
n _i	365.0	1.72624
n _{313.2}	313.2	1.74724
n _{302.2}	302.2	1.75354

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2791	P' _{s,t}	0.2766
P _{C,s}	0.5354	P' _{C,s}	0.5786
P _{d,C}	0.3034	P' _{d,C'}	0.2529
P _{e,d}	0.2383	P' _{e,d}	0.2362
P _{g,F}	0.5470	P' _{g,F'}	0.4855
P _{i,h}	0.7813	P' _{i,h}	0.7744

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0179	$\Delta P_{C,s}$	0.0080
$\Delta P_{F,e}$	-0.0024	$\Delta P_{g,F}$	-0.0082

热性质 Thermal Properties

T _g (°C)	522
T _s (°C)	560
T _{1014.5} (°C)	485
T ₁₀₁₃ (°C)	513
T _{107.6} (°C)	616
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	75
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	95
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.840	0.710
2200	0.960	0.922
2000	0.987	0.974
1800	0.998	0.996
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.997
700	0.998	0.996
650	0.998	0.996
600	0.998	0.996
550	0.998	0.996
500	0.997	0.994
480	0.995	0.990
460	0.993	0.987
440	0.991	0.983
420	0.990	0.980
400	0.988	0.977
390	0.987	0.974
380	0.983	0.966
370	0.974	0.949
360	0.958	0.918
350	0.933	0.870
340	0.883	0.780
330	0.800	0.640
320	0.650	0.430
310	0.400	0.160
300	0.120	0.010
290		
280		

色散公式常数 Constants of Dispersion

K1	4.77723122E-001
L1	2.26962306E-002
K2	1.33623400E+000
L2	6.59605348E-003
K3	1.22543400E+000
L3	9.42027590E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	1.33E-06
D1	1.27E-08
D2	-2.36E-11
E0	5.62E-07
E1	7.08E-10
$\lambda_{TK}(\mu m)$	0.199

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	665
FA	138
E(10 ⁷ Pa)	11369
G(10 ⁷ Pa)	4445
μ	0.279
B(10 ⁻¹² /Pa)	1.89

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.4	2.9	3.0	3.2	3.8	4.0
-40~-20	2.4	2.9	3.0	3.2	3.7	4.0
-20~0	2.4	3.0	3.3	3.5	3.8	4.3
0~20	2.5	3.1	3.3	3.6	3.9	4.3
20~40	2.6	3.2	3.5	3.7	4.2	4.5
40~60	2.7	3.3	3.5	3.7	4.3	4.7
60~80	2.8	3.3	3.5	3.7	4.3	4.9
80~100	2.9	3.4	3.8	4.0	4.4	5.1
100~120	3.0	3.5	4.0	4.2	4.6	5.3
120~140	3.1	3.7	4.1	4.3	4.7	5.4

着色度 Color Code

λ_{80}/λ_5	360/305
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	3.50
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退火增值系数 ECFA.

β	135
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备注 Remarks

*:退火速率 anneal rate 4°C



D-LaK6S-25

693531

nd=

vd= 53.05

nF-nc= 0.01306

ne=

ve= 52.82

nF-nc'= 0.01318

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.65516
n _{1970.1}	1970.1	1.66222
n _{1529.6}	1529.6	1.66966
n _{1060.0}	1060.0	1.67733
n _t	1014.0	1.67821
n _s	852.1	1.68186
n _r	706.5	1.68660
nc	656.3	1.68885
nc'	643.9	1.68948
n _{He-Ne}	632.8	1.69007
n _D	589.3	1.69269
n _d	587.6	1.69281
n _e	546.1	1.69592
n _F	486.1	1.70191
n _{F'}	480.0	1.70265
n _g	435.8	1.70905
n _h	404.7	1.71501
n _i	365.0	1.72521
n _{313.2}	313.2	1.74621
n _{302.2}	302.2	1.75251

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2791	P' _{s,t}	0.2766
P _{C,s}	0.5354	P' _{C,s}	0.5786
P _{d,C}	0.3034	P' _{d,C'}	0.2529
P _{e,d}	0.2383	P' _{e,d}	0.2362
P _{g,F}	0.5470	P' _{g,F'}	0.4855
P _{i,h}	0.7813	P' _{i,h}	0.7744

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0183	$\Delta P_{C,s}$	0.0082
$\Delta P_{F,e}$	-0.0024	$\Delta P_{g,F}$	-0.0083

热性质 Thermal Properties

T _g (°C)	522
T _s (°C)	560
T _{1014.5} (°C)	485
T ₁₀₁₃ (°C)	513
T _{107.6} (°C)	616
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	75
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	95
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.840	0.710
2200	0.960	0.922
2000	0.987	0.974
1800	0.998	0.996
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.997
700	0.998	0.996
650	0.998	0.996
600	0.998	0.996
550	0.998	0.996
500	0.997	0.994
480	0.995	0.990
460	0.993	0.987
440	0.991	0.983
420	0.990	0.980
400	0.988	0.977
390	0.987	0.974
380	0.983	0.966
370	0.974	0.949
360	0.958	0.918
350	0.933	0.870
340	0.883	0.780
330	0.800	0.640
320	0.650	0.430
310	0.400	0.160
300	0.120	0.010
290		
280		

色散公式常数 Constants of Dispersion

K1	1.22299900E+000
L1	9.40859220E+001
K2	4.71209973E-001
L2	2.27830112E-002
K3	1.33928900E+000
L3	6.65285345E-003

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	1.33E-06
D1	1.27E-08
D2	-2.36E-11
E0	5.62E-07
E1	7.08E-10
$\lambda_{TK}(\mu\text{m})$	0.199

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	665
FA	138
E(10 ⁷ Pa)	11369
G(10 ⁷ Pa)	4445
μ	0.279
B(10 ⁻¹² /Pa)	1.89

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.4	2.9	3.0	3.2	3.8	4.0
-40~-20	2.4	2.9	3.0	3.2	3.7	4.0
-20~0	2.4	3.0	3.3	3.5	3.8	4.3
0~20	2.5	3.1	3.3	3.6	3.9	4.3
20~40	2.6	3.2	3.5	3.7	4.2	4.5
40~60	2.7	3.3	3.5	3.7	4.3	4.7
60~80	2.8	3.3	3.5	3.7	4.3	4.9
80~100	2.9	3.4	3.8	4.0	4.4	5.1
100~120	3.0	3.5	4.0	4.2	4.6	5.3
120~140	3.1	3.7	4.1	4.3	4.7	5.4

着色度 Color Code

λ_{80}/λ_5	360/305
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.50
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退火增值系数 ECFA.

β	135
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备注 Remarks

*:退火速率 anneal rate 25°C



D-LaK52S

731539

nd=

vd= 53.94

nF-nc= 0.01354

ne=

ve= 53.71

nF-nc'= 0.01366

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.69078
n _{1970.1}	1970.1	1.69833
n _{1529.6}	1529.6	1.70627
n _{1060.0}	1060.0	1.71437
n _t	1014.0	1.71529
n _s	852.1	1.71911
n _r	706.5	1.72405
nc	656.3	1.72639
nc'	643.9	1.72704
n _{He-Ne}	632.8	1.72765
n _D	589.3	1.73038
n _d	587.6	1.73050
n _e	546.1	1.73373
n _F	486.1	1.73993
n _{F'}	480.0	1.74070
n _g	435.8	1.74732
n _h	404.7	1.75346
n _i	365.0	1.76397
n _{313.2}	313.2	1.78546
n _{302.2}	302.2	1.79186

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2816	P' _{s,t}	0.2792
P _{C,s}	0.5375	P' _{C,s}	0.5808
P _{d,C}	0.3038	P' _{d,C'}	0.2532
P _{e,d}	0.2384	P' _{e,d}	0.2363
P _{g,F}	0.5456	P' _{g,F'}	0.4843
P _{i,h}	0.7760	P' _{i,h}	0.7693

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0187	$\Delta P_{C,s}$	0.0082
$\Delta P_{F,e}$	-0.0024	$\Delta P_{g,F}$	-0.0083

热性质 Thermal Properties

T _g (°C)	620
T _s (°C)	648
T _{1014.5} (°C)	572
T ₁₀₁₃ (°C)	601
T _{107.6} (°C)	702
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	61
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	78
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.805	0.648
2200	0.948	0.899
2000	0.982	0.964
1800	0.994	0.988
1600	0.998	0.996
1400	0.998	0.997
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.998
550	0.999	0.998
500	0.999	0.998
480	0.998	0.997
460	0.998	0.996
440	0.997	0.995
420	0.996	0.992
400	0.994	0.989
390	0.992	0.985
380	0.989	0.979
370	0.983	0.966
360	0.971	0.943
350	0.952	0.907
340	0.925	0.856
330	0.885	0.784
320	0.832	0.692
310	0.744	0.553
300	0.693	0.480
290	0.625	0.391
280	0.539	0.291

色散公式常数 Constants of Dispersion

K1	1.04647500E+000
L1	1.73536576E-002
K2	8.89910877E-001
L2	2.98398430E-003
K3	1.23173600E+000
L3	8.71100540E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	2
RA(S)	2

折射率温度系数常数 Constants of dn/dt

D0	1.80E-06
D1	1.72E-08
D2	-5.24E-11
E0	4.52E-07
E1	1.37E-10
$\lambda_{TK}(\mu m)$	0.229

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	669
FA	141
E(10 ⁷ Pa)	12143
G(10 ⁷ Pa)	4711
μ	0.289
B(10 ⁻¹² /Pa)	

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.4	2.8	3.0	3.1	3.5	3.9
-40~-20	2.5	2.9	3.1	3.2	3.7	4.0
-20~0	2.5	3.0	3.2	3.5	3.8	4.2
0~20	2.6	3.2	3.4	3.7	4.1	4.6
20~40	3.0	3.5	3.8	3.9	4.4	4.8
40~60	3.1	3.6	3.8	4.0	4.4	4.9
60~80	3.2	3.6	3.8	4.0	4.4	4.9
80~100	3.2	3.7	3.9	4.0	4.5	5.0
100~120	3.2	3.7	3.9	4.1	4.6	5.2
120~140	3.3	3.8	4.0	4.1	4.7	5.3

着色度 Color Code

λ_{80}/λ_5	355/275
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	4.00
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-LaK52S-25

729539

nd=

vd= 53.85

nF-nc= 0.01354

ne=

ve= 53.62

nF-nc'= 0.01366

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.68952
n _{1970.1}	1970.1	1.69707
n _{1529.6}	1529.6	1.70501
n _{1060.0}	1060.0	1.71311
n _t	1014.0	1.71403
n _s	852.1	1.71785
n _r	706.5	1.72279
nc	656.3	1.72513
nc'	643.9	1.72578
n _{He-Ne}	632.8	1.72639
n _D	589.3	1.72912
n _d	587.6	1.72924
n _e	546.1	1.73247
n _F	486.1	1.73867
n _{F'}	480.0	1.73944
n _g	435.8	1.74606
n _h	404.7	1.75220
n _i	365.0	1.76271
n _{313.2}	313.2	1.78420
n _{302.2}	302.2	1.79060

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2816	P' _{s,t}	0.2792
P _{C,s}	0.5375	P' _{C,s}	0.5808
P _{d,C}	0.3038	P' _{d,C'}	0.2532
P _{e,d}	0.2384	P' _{e,d}	0.2363
P _{g,F}	0.5456	P' _{g,F'}	0.4843
P _{i,h}	0.7760	P' _{i,h}	0.7693

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0192	$\Delta P_{C,s}$	0.0085
$\Delta P_{F,e}$	-0.0024	$\Delta P_{g,F}$	-0.0084

热性质 Thermal Properties

T _g (°C)	620
T _s (°C)	648
T _{1014.5} (°C)	572
T ₁₀₁₃ (°C)	601
T _{107.6} (°C)	702
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	61
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	78
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.805	0.648
2200	0.948	0.899
2000	0.982	0.964
1800	0.994	0.988
1600	0.998	0.996
1400	0.998	0.997
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.998
550	0.999	0.998
500	0.999	0.998
480	0.998	0.997
460	0.998	0.996
440	0.997	0.995
420	0.996	0.992
400	0.994	0.989
390	0.992	0.985
380	0.989	0.979
370	0.983	0.966
360	0.971	0.943
350	0.952	0.907
340	0.925	0.856
330	0.885	0.784
320	0.832	0.692
310	0.744	0.553
300	0.693	0.480
290	0.625	0.391
280	0.539	0.291

色散公式常数 Constants of Dispersion

K1	1.04345600E+000
L1	1.73669457E-002
K2	8.88612747E-001
L2	3.01494147E-003
K3	1.23102700E+000
L3	8.71255650E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	2
RA(S)	2

折射率温度系数常数 Constants of dn/dt

D0	1.80E-06
D1	1.72E-08
D2	-5.24E-11
E0	4.52E-07
E1	1.37E-10
$\lambda_{TK}(\mu\text{m})$	0.229

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	669
FA	141
E(10 ⁷ Pa)	12143
G(10 ⁷ Pa)	4711
μ	0.289
B(10 ⁻¹² /Pa)	

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.4	2.8	3.0	3.1	3.5	3.9
-40~-20	2.5	2.9	3.1	3.2	3.7	4.0
-20~0	2.5	3.0	3.2	3.5	3.8	4.2
0~20	2.6	3.2	3.4	3.7	4.1	4.6
20~40	3.0	3.5	3.8	3.9	4.4	4.8
40~60	3.1	3.6	3.8	4.0	4.4	4.9
60~80	3.2	3.6	3.8	4.0	4.4	4.9
80~100	3.2	3.7	3.9	4.0	4.5	5.0
100~120	3.2	3.7	3.9	4.1	4.6	5.2
120~140	3.3	3.8	4.0	4.1	4.7	5.3

着色度 Color Code

λ_{80}/λ_5	355/275
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.00
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-LaK70S

669554

nd=

vd= 55.39

nF-nc= 0.01208

ne=

ve= 55.15

nF-nc'= 0.01218

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.63303
n _{1970.1}	1970.1	1.63994
n _{1529.6}	1529.6	1.64722
n _{1060.0}	1060.0	1.65463
n _t	1014.0	1.65546
n _s	852.1	1.65890
n _r	706.5	1.66333
nc	656.3	1.66543
nc'	643.9	1.66601
n _{He-Ne}	632.8	1.66656
n _D	589.3	1.66899
nd	587.6	1.66910
n _e	546.1	1.67198
n _F	486.1	1.67751
n _{F'}	480.0	1.67820
n _g	435.8	1.68409
n _h	404.7	1.68956
n _i	365.0	1.69891
n _{313.2}	313.2	1.71801
n _{302.2}	302.2	1.72369

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2849	P' _{s,t}	0.2825
P _{C,s}	0.5401	P' _{C,s}	0.5835
P _{d,C}	0.3041	P' _{d,C'}	0.2535
P _{e,d}	0.2383	P' _{e,d}	0.2363
P _{g,F}	0.5448	P' _{g,F'}	0.4836
P _{i,h}	0.7742	P' _{i,h}	0.7676

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0178	$\Delta P_{C,s}$	0.0074
$\Delta P_{F,e}$	-0.0019	$\Delta P_{g,F}$	-0.0066

热性质 Thermal Properties

T _g (°C)	531
T _s (°C)	567
T _{1014.5} (°C)	488
T ₁₀₁₃ (°C)	518
T _{107.6} (°C)	626
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	73
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	91
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.860	0.740
2200	0.963	0.928
2000	0.988	0.976
1800	0.997	0.994
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.997
650	0.998	0.997
600	0.998	0.996
550	0.998	0.996
500	0.997	0.995
480	0.997	0.994
460	0.996	0.993
440	0.996	0.992
420	0.995	0.990
400	0.993	0.986
390	0.995	0.990
380	0.993	0.986
370	0.981	0.963
360	0.968	0.937
350	0.946	0.895
340	0.906	0.821
330	0.840	0.710
320	0.750	0.570
310	0.650	0.420
300	0.520	0.270
290	0.400	0.160
280	0.280	0.080

色散公式常数 Constants of Dispersion

K1	6.16886556E-001
L1	2.49888632E-004
K2	1.11924800E+000
L2	1.58113893E-002
K3	1.29814800E+000
L3	1.02017677E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	2.10E-06
D1	1.31E-08
D2	-3.75E-11
E0	5.42E-07
E1	6.96E-10
$\lambda_{TK}(\mu\text{m})$	0.177

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	660
FA	135
E(10 ⁷ Pa)	11335
G(10 ⁷ Pa)	4415
μ	0.284
B(10 ⁻¹² /Pa)	1.91

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.7	3.0	3.2	3.4	3.8	4.1
-40~-20	2.7	3.2	3.3	3.4	3.8	4.1
-20~0	2.9	3.3	3.5	3.6	3.9	4.5
0~20	3.0	3.3	3.5	3.8	4.3	4.6
20~40	3.0	3.4	3.6	3.9	4.4	4.8
40~60	3.0	3.5	3.7	4.0	4.4	4.9
60~80	3.0	3.7	3.9	4.0	4.4	4.9
80~100	3.0	3.7	4.0	4.1	4.5	4.9
100~120	3.1	3.8	4.0	4.2	4.5	5.2
120~140	3.1	3.8	4.0	4.3	4.7	5.2

着色度 Color Code

λ_{80}/λ_5	350/280
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.35
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-LaK70S-25

668553

nd=

vd= 55.30

nF-nc= 0.01208

ne=

ve= 55.06

nF-nc'= 0.01219

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.63200
n _{1970.1}	1970.1	1.63889
n _{1529.6}	1529.6	1.64615
n _{1060.0}	1060.0	1.65353
n _t	1014.0	1.65437
n _s	852.1	1.65780
n _r	706.5	1.66223
nc	656.3	1.66433
nc'	643.9	1.66491
n _{He-Ne}	632.8	1.66546
n _D	589.3	1.66789
nd	587.6	1.66800
n _e	546.1	1.67088
n _F	486.1	1.67641
n _{F'}	480.0	1.67710
n _g	435.8	1.68299
n _h	404.7	1.68846
n _i	365.0	1.69782
n _{313.2}	313.2	1.71691
n _{302.2}	302.2	1.72259

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2846	P' _{s,t}	0.2822
P _{C,s}	0.5399	P' _{C,s}	0.5833
P _{d,C}	0.3041	P' _{d,C'}	0.2535
P _{e,d}	0.2384	P' _{e,d}	0.2364
P _{g,F}	0.5449	P' _{g,F'}	0.4835
P _{i,h}	0.7742	P' _{i,h}	0.7675

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0177	$\Delta P_{C,s}$	0.0074
$\Delta P_{F,e}$	-0.0020	$\Delta P_{g,F}$	-0.0067

热性质 Thermal Properties

T _g (°C)	531
T _s (°C)	567
T _{1014.5} (°C)	488
T ₁₀₁₃ (°C)	518
T _{107.6} (°C)	626
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	73
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	91
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.860	0.740
2200	0.963	0.928
2000	0.988	0.976
1800	0.997	0.994
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.997
650	0.998	0.997
600	0.998	0.996
550	0.998	0.996
500	0.997	0.995
480	0.997	0.994
460	0.996	0.993
440	0.996	0.992
420	0.995	0.990
400	0.993	0.986
390	0.995	0.990
380	0.993	0.986
370	0.981	0.963
360	0.968	0.937
350	0.946	0.895
340	0.906	0.821
330	0.840	0.710
320	0.750	0.570
310	0.650	0.420
300	0.520	0.270
290	0.400	0.160
280	0.280	0.080

色散公式常数 Constants of Dispersion

K1	6.15746796E-001
L1	3.10601754E-004
K2	1.11671200E+000
L2	1.58114228E-002
K3	1.29436800E+000
L3	1.02149796E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	2.10E-06
D1	1.31E-08
D2	-3.75E-11
E0	5.42E-07
E1	6.96E-10
$\lambda_{TK}(\mu m)$	0.177

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	660
FA	135
E(10 ⁷ Pa)	11335
G(10 ⁷ Pa)	4415
μ	0.284
B(10 ⁻¹² /Pa)	1.91

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.7	3.0	3.2	3.4	3.8	4.1
-40~-20	2.7	3.2	3.3	3.4	3.8	4.1
-20~0	2.9	3.3	3.5	3.6	3.9	4.5
0~20	3.0	3.3	3.5	3.8	4.3	4.6
20~40	3.0	3.4	3.6	3.9	4.4	4.8
40~60	3.0	3.5	3.7	4.0	4.4	4.9
60~80	3.0	3.7	3.9	4.0	4.4	4.9
80~100	3.0	3.7	4.0	4.1	4.5	4.9
100~120	3.1	3.8	4.0	4.2	4.5	5.2
120~140	3.1	3.8	4.0	4.3	4.7	5.2

着色度 Color Code

λ_{80}/λ_5	350/280
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	3.35
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-LaF50S

774496

nd=

vd= 49.59

nF-nc= 0.01561

ne=

ve= 49.32

nF-nc'= 0.01577

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.73562
n _{1970.1}	1970.1	1.74190
n _{1529.6}	1529.6	1.74871
n _{1060.0}	1060.0	1.75632
n _t	1014.0	1.75725
n _s	852.1	1.76125
n _r	706.5	1.76667
nc	656.3	1.76931
nc'	643.9	1.77005
n _{He-Ne}	632.8	1.77075
n _D	589.3	1.77386
nd	587.6	1.77400
n _e	546.1	1.77772
n _F	486.1	1.78492
n _{F'}	480.0	1.78582
n _g	435.8	1.79358
n _h	404.7	1.80083
n _i	365.0	1.81334
n _{313.2}	313.2	1.83930
n _{302.2}	302.2	1.84714

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2562	P' _{s,t}	0.2536
P _{C,s}	0.5167	P' _{C,s}	0.5585
P _{d,C}	0.3005	P' _{d,C'}	0.2504
P _{e,d}	0.2381	P' _{e,d}	0.2357
P _{g,F}	0.5548	P' _{g,F'}	0.4919
P _{i,h}	0.8012	P' _{i,h}	0.7931

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0070	$\Delta P_{C,s}$	-0.0023
$\Delta P_{F,e}$	-0.0012	$\Delta P_{g,F}$	-0.0065

热性质 Thermal Properties

T _g (°C)	573
T _s (°C)	613
T _{1014.5} (°C)	523
T ₁₀₁₃ (°C)	557
T _{107.6} (°C)	671
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	73
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	89
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.890	0.792
2200	0.970	0.941
2000	0.988	0.976
1800	0.996	0.993
1600	0.998	0.997
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.997
650	0.998	0.997
600	0.998	0.996
550	0.998	0.996
500	0.998	0.996
480	0.997	0.995
460	0.996	0.993
440	0.995	0.990
420	0.993	0.987
400	0.989	0.979
390	0.985	0.970
380	0.977	0.955
370	0.962	0.925
360	0.932	0.869
350	0.884	0.782
340	0.809	0.655
330	0.706	0.498
320	0.576	0.332
310	0.367	0.135
300	0.277	0.077
290		
280		

色散公式常数 Constants of Dispersion

K1	1.34473900E+000
L1	6.03619404E-003
K2	1.13288200E+000
L2	9.55213170E+001
K3	7.31048942E-001
L3	2.27061994E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	4

折射率温度系数常数 Constants of dn/dt

D0	1.53E-06
D1	1.43E-08
D2	-3.83E-11
E0	5.87E-07
E1	4.10E-10
$\lambda_{TK}(\mu m)$	0.222

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	614
FA	110
E(10 ⁷ Pa)	12098
G(10 ⁷ Pa)	4645
μ	0.302
B(10 ⁻¹² /Pa)	1.36

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.7	3.2	3.5	3.6	4.3	4.8
-40~-20	2.7	3.2	3.5	3.7	4.3	4.8
-20~0	2.7	3.3	3.6	3.7	4.3	4.9
0~20	2.8	3.3	3.6	3.7	4.3	5.1
20~40	3.0	3.7	3.9	4.3	4.8	5.5
40~60	3.0	3.7	4.0	4.3	4.9	5.5
60~80	3.0	3.8	4.0	4.3	4.9	5.5
80~100	3.3	4.0	4.1	4.5	5.1	5.8
100~120	3.3	4.0	4.1	4.5	5.2	5.8
120~140	3.3	4.0	4.1	4.5	5.2	5.8

着色度 Color Code

$\lambda_{80/\lambda 5}$	380/310
$\lambda_{70/\lambda 5}$	

其他性质 Other Properties

$\rho(g/cm^3)$	4.93
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-LaF50S-25

773495

nd=

vd= 49.52

nF-nc= 0.01561

ne=

ve= 49.25

nF-nc'= 0.01577

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.73450
n _{1970.1}	1970.1	1.74078
n _{1529.6}	1529.6	1.74759
n _{1060.0}	1060.0	1.75520
n _t	1014.0	1.75613
n _s	852.1	1.76013
n _r	706.5	1.76555
nc	656.3	1.76819
nc'	643.9	1.76893
n _{He-Ne}	632.8	1.76963
n _D	589.3	1.77274
nd	587.6	1.77288
n _e	546.1	1.77660
n _F	486.1	1.78380
n _{F'}	480.0	1.78470
n _g	435.8	1.79246
n _h	404.7	1.79971
n _i	365.0	1.81222
n _{313.2}	313.2	1.83818
n _{302.2}	302.2	1.84602

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2562	P' _{s,t}	0.2536
P _{C,s}	0.5167	P' _{C,s}	0.5585
P _{d,C}	0.3005	P' _{d,C'}	0.2504
P _{e,d}	0.2381	P' _{e,d}	0.2357
P _{g,F}	0.5548	P' _{g,F'}	0.4919
P _{i,h}	0.8012	P' _{i,h}	0.7931

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0066	$\Delta P_{C,s}$	-0.0021
$\Delta P_{F,e}$	-0.0012	$\Delta P_{g,F}$	-0.0066

热性质 Thermal Properties

T _g (°C)	573
T _s (°C)	613
T _{1014.5} (°C)	523
T ₁₀₁₃ (°C)	557
T _{107.6} (°C)	671
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	73
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	89
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.890	0.792
2200	0.970	0.941
2000	0.988	0.976
1800	0.996	0.993
1600	0.998	0.997
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.997
650	0.998	0.997
600	0.998	0.996
550	0.998	0.996
500	0.998	0.996
480	0.997	0.995
460	0.996	0.993
440	0.995	0.990
420	0.993	0.987
400	0.989	0.979
390	0.985	0.970
380	0.977	0.955
370	0.962	0.925
360	0.932	0.869
350	0.884	0.782
340	0.809	0.655
330	0.706	0.498
320	0.576	0.332
310	0.367	0.135
300	0.277	0.077
290		
280		

色散公式常数 Constants of Dispersion

K1	7.34700263E-001
L1	2.26667468E-002
K2	1.33716600E+000
L2	6.01676945E-003
K3	1.13513400E+000
L3	9.57512660E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	4

折射率温度系数常数 Constants of dn/dt

D0	1.53E-06
D1	1.43E-08
D2	-3.83E-11
E0	5.87E-07
E1	4.10E-10
$\lambda_{TK}(\mu m)$	0.222

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	614
FA	110
E(10 ⁷ Pa)	12098
G(10 ⁷ Pa)	4645
μ	0.302
B(10 ⁻¹² /Pa)	1.36

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	2.7	3.2	3.5	3.6	4.3	4.8
-40~-20	2.7	3.2	3.5	3.7	4.3	4.8
-20~0	2.7	3.3	3.6	3.7	4.3	4.9
0~20	2.8	3.3	3.6	3.7	4.3	5.1
20~40	3.0	3.7	3.9	4.3	4.8	5.5
40~60	3.0	3.7	4.0	4.3	4.9	5.5
60~80	3.0	3.8	4.0	4.3	4.9	5.5
80~100	3.3	4.0	4.1	4.5	5.1	5.8
100~120	3.3	4.0	4.1	4.5	5.2	5.8
120~140	3.3	4.0	4.1	4.5	5.2	5.8

着色度 Color Code

λ_{80}/λ_5	380/310
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	4.93
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-LaF050S

768493

nd=

vd= 49.28

nF-nc= 0.01559

ne=

ve= 49.04

nF-nc'= 0.01574

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.72654
n _{1970.1}	1970.1	1.73401
n _{1529.6}	1529.6	1.74195
n _{1060.0}	1060.0	1.75037
n _t	1014.0	1.75136
n _s	852.1	1.75553
n _r	706.5	1.76106
nc	656.3	1.76372
nc'	643.9	1.76446
n _{He-Ne}	632.8	1.76516
n _D	589.3	1.76828
nd	587.6	1.76842
n _e	546.1	1.77213
n _F	486.1	1.77931
n _{F'}	480.0	1.78021
n _g	435.8	1.78792
n _h	404.7	1.79514
n _i	365.0	1.80757
n _{313.2}	313.2	1.83340
n _{302.2}	302.2	1.84121

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2676	P' _{s,t}	0.2650
P _{C,s}	0.5253	P' _{C,s}	0.5676
P _{d,C}	0.3016	P' _{d,C'}	0.2513
P _{e,d}	0.2381	P' _{e,d}	0.2358
P _{g,F}	0.5524	P' _{g,F'}	0.4900
P _{i,h}	0.7972	P' _{i,h}	0.7895

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0144	$\Delta P_{C,s}$	0.0070
$\Delta P_{F,e}$	-0.0025	$\Delta P_{g,F}$	-0.0094

热性质 Thermal Properties

T _g (°C)	610
T _s (°C)	644
T _{1014.5} (°C)	566
T ₁₀₁₃ (°C)	596
T _{107.6} (°C)	692
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	57
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	74
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.830	0.680
2200	0.954	0.911
2000	0.983	0.966
1800	0.995	0.991
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.997
700	0.998	0.997
650	0.998	0.996
600	0.998	0.996
550	0.998	0.996
500	0.996	0.993
480	0.995	0.990
460	0.993	0.987
440	0.992	0.984
420	0.989	0.979
400	0.984	0.969
390	0.979	0.959
380	0.971	0.942
370	0.954	0.911
360	0.927	0.860
350	0.890	0.790
340	0.830	0.690
330	0.750	0.560
320	0.650	0.420
310	0.480	0.230
300	0.400	0.160
290	0.260	0.070
280		

色散公式常数 Constants of Dispersion

K1	6.53249502E-001
L1	2.36442890E-002
K2	1.20557700E+000
L2	8.55377960E+001
K3	1.40453800E+000
L3	6.36401540E-003

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	4.01E-06
D1	1.55E-08
D2	-3.41E-11
E0	5.74E-07
E1	4.46E-10
$\lambda_{TK}(\mu m)$	0.215

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	756
FA	104
E(10 ⁷ Pa)	12276
G(10 ⁷ Pa)	4751
μ	0.292
B(10 ⁻¹² /Pa)	1.75

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	3.8	4.6	4.7	5.1	5.5	5.8
-40~-20	3.8	4.6	4.8	5.3	5.7	6.1
-20~0	4.1	4.7	4.9	5.0	5.8	6.2
0~20	4.2	5.0	5.1	5.3	5.9	6.4
20~40	4.4	5.1	5.3	5.5	6.1	6.7
40~60	4.6	5.3	5.5	5.7	6.4	6.9
60~80	4.7	5.3	5.7	5.9	6.6	7.2
80~100	4.8	5.4	5.8	6.0	6.8	7.5
100~120	4.9	5.5	5.8	6.1	6.8	7.4
120~140	5.0	5.6	5.8	6.2	6.8	7.5

着色度 Color Code

λ_{80}/λ_5	375/285
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	4.51
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-LaF050S-25

767492

nd=

vd= 49.20

nF-nc= 0.01559

ne=

ve= 48.96

nF-nc'= 0.01575

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.72525
n _{1970.1}	1970.1	1.73270
n _{1529.6}	1529.6	1.74062
n _{1060.0}	1060.0	1.74904
n _t	1014.0	1.75003
n _s	852.1	1.75420
n _r	706.5	1.75973
nc	656.3	1.76239
nc'	643.9	1.76313
n _{He-Ne}	632.8	1.76383
n _D	589.3	1.76695
n _d	587.6	1.76709
n _e	546.1	1.77080
n _F	486.1	1.77798
n _{F'}	480.0	1.77888
n _g	435.8	1.78659
n _h	404.7	1.79381
n _i	365.0	1.80624
n _{313.2}	313.2	1.83207
n _{302.2}	302.2	1.83988

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2675	P' _{s,t}	0.2649
P _{C,s}	0.5253	P' _{C,s}	0.5675
P _{d,C}	0.3017	P' _{d,C'}	0.2514
P _{e,d}	0.2381	P' _{e,d}	0.2358
P _{g,F}	0.5525	P' _{g,F'}	0.4900
P _{i,h}	0.7972	P' _{i,h}	0.7895

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0147	$\Delta P_{C,s}$	0.0072
$\Delta P_{F,e}$	-0.0026	$\Delta P_{g,F}$	-0.0095

热性质 Thermal Properties

T _g (°C)	610
T _s (°C)	644
T _{1014.5} (°C)	566
T ₁₀₁₃ (°C)	596
T _{107.6} (°C)	692
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	57
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	74
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.830	0.680
2200	0.954	0.911
2000	0.983	0.966
1800	0.995	0.991
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.997
700	0.998	0.997
650	0.998	0.996
600	0.998	0.996
550	0.998	0.996
500	0.996	0.993
480	0.995	0.990
460	0.993	0.987
440	0.992	0.984
420	0.989	0.979
400	0.984	0.969
390	0.979	0.959
380	0.971	0.942
370	0.954	0.911
360	0.927	0.860
350	0.890	0.790
340	0.830	0.690
330	0.750	0.560
320	0.650	0.420
310	0.480	0.230
300	0.400	0.160
290	0.260	0.070
280		

色散公式常数 Constants of Dispersion

K1	1.22950300E+000
L1	8.73071210E+001
K2	6.41767859E-001
L2	2.37652175E-002
K3	1.41136400E+000
L3	6.45932741E-003

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	4.01E-06
D1	1.55E-08
D2	-3.41E-11
E0	5.74E-07
E1	4.46E-10
$\lambda_{TK}(\mu m)$	0.215

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	756
FA	104
E(10 ⁷ Pa)	12276
G(10 ⁷ Pa)	4751
μ	0.292
B(10 ⁻¹² /Pa)	1.75

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	3.8	4.6	4.7	5.1	5.5	5.8
-40~-20	3.8	4.6	4.8	5.3	5.7	6.1
-20~0	4.1	4.7	4.9	5.0	5.8	6.2
0~20	4.2	5.0	5.1	5.3	5.9	6.4
20~40	4.4	5.1	5.3	5.5	6.1	6.7
40~60	4.6	5.3	5.5	5.7	6.4	6.9
60~80	4.7	5.3	5.7	5.9	6.6	7.2
80~100	4.8	5.4	5.8	6.0	6.8	7.5
100~120	4.9	5.5	5.8	6.1	6.8	7.4
120~140	5.0	5.6	5.8	6.2	6.8	7.5

着色度 Color Code

λ_{80}/λ_5	375/285
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	4.51
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-LaF53S

743493

nd=

vd= 49.33

nF-nc= 0.01507

ne=

ve= 49.08

nF-nc'= 0.01522

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.70295
n _{1970.1}	1970.1	1.71012
n _{1529.6}	1529.6	1.71776
n _{1060.0}	1060.0	1.72587
n _t	1014.0	1.72682
n _s	852.1	1.73085
n _r	706.5	1.73619
nc	656.3	1.73876
nc'	643.9	1.73948
n _{He-Ne}	632.8	1.74015
n _D	589.3	1.74317
nd	587.6	1.74330
n _e	546.1	1.74689
n _F	486.1	1.75383
n _{F'}	480.0	1.75469
n _g	435.8	1.76216
n _h	404.7	1.76914
n _i	365.0	1.78117
n _{313.2}	313.2	1.80619
n _{302.2}	302.2	1.81377

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2671	P' _{s,t}	0.2645
P _{C,s}	0.5249	P' _{C,s}	0.5671
P _{d,C}	0.3015	P' _{d,C'}	0.2512
P _{e,d}	0.2381	P' _{e,d}	0.2358
P _{g,F}	0.5528	P' _{g,F'}	0.4903
P _{i,h}	0.7985	P' _{i,h}	0.7907

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0133	$\Delta P_{C,s}$	0.0065
$\Delta P_{F,e}$	-0.0024	$\Delta P_{g,F}$	-0.0089

热性质 Thermal Properties

T _g (°C)	557
T _s (°C)	590
T _{1014.5} (°C)	513
T ₁₀₁₃ (°C)	538
T _{107.6} (°C)	641
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	56
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	72
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.825	0.681
2200	0.953	0.909
2000	0.982	0.964
1800	0.994	0.988
1600	0.998	0.996
1400	0.998	0.997
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.997
700	0.998	0.996
650	0.998	0.996
600	0.997	0.995
550	0.997	0.995
500	0.997	0.995
480	0.996	0.993
460	0.995	0.991
440	0.993	0.987
420	0.991	0.983
400	0.986	0.973
390	0.981	0.962
380	0.970	0.940
370	0.948	0.898
360	0.908	0.824
350	0.847	0.717
340	0.750	0.563
330	0.628	0.394
320	0.486	0.236
310	0.316	0.100
300	0.214	0.046
290	0.145	0.021
280		

色散公式常数 Constants of Dispersion

K1	6.45397604E-001
L1	2.34993584E-002
K2	1.17528700E+000
L2	8.77755280E+001
K3	1.32747900E+000
L3	6.06015977E-003

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	7.67E-06
D1	2.36E-08
D2	-1.95E-10
E0	6.35E-07
E1	3.67E-10
$\lambda_{TK}(\mu\text{m})$	0.208

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	673
FA	101
E(10 ⁷ Pa)	11978
G(10 ⁷ Pa)	4614
μ	0.298
B(10 ⁻¹² /Pa)	2.20

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	4.8	5.3	5.7	5.8	6.0	6.6
-20~0	5.8	6.4	6.8	7.2	7.5	7.9
0~20	6.0	6.6	7.2	7.3	8.2	8.9
20~40	6.4	7.2	7.4	7.5	8.3	9.0
40~60	6.6	7.3	7.6	7.6	8.5	9.1
60~80	7.0	7.4	7.6	7.9	8.5	9.3
80~100						
100~120						
120~140						

着色度 Color Code

λ_{80}/λ_{5}	370/295
λ_{70}/λ_{5}	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.26
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退火增值系数 ECFA.

β	145
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备注 Remarks

*:退火速率 anneal rate 4°C



D-LaF53S-25

742493

nd=

vd= 49.25

nF-nc= 0.01507

ne=

ve= 49.00

nF-nc'= 0.01522

折射率 Refractive Index*

	λ(nm)	
n _{2325.4}	2325.4	1.70175
n _{1970.1}	1970.1	1.70892
n _{1529.6}	1529.6	1.71656
n _{1060.0}	1060.0	1.72467
n _t	1014.0	1.72562
n _s	852.1	1.72965
n _r	706.5	1.73499
nc	656.3	1.73756
nc'	643.9	1.73828
n _{He-Ne}	632.8	1.73895
n _D	589.3	1.74197
nd	587.6	1.74210
n _e	546.1	1.74569
n _F	486.1	1.75263
n _{F'}	480.0	1.75349
n _g	435.8	1.76096
n _h	404.7	1.76794
n _i	365.0	1.77997
n _{313.2}	313.2	1.80499
n _{302.2}	302.2	1.81257

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2671	P' _{s,t}	0.2645
P _{C,s}	0.5249	P' _{C,s}	0.5670
P _{d,C}	0.3015	P' _{d,C'}	0.2513
P _{e,d}	0.2381	P' _{e,d}	0.2358
P _{g,F}	0.5528	P' _{g,F'}	0.4903
P _{i,h}	0.7985	P' _{i,h}	0.7906

异常色散 Abnormal Dispersions

ΔP _{C,t}	0.0137	ΔP _{C,s}	0.0067
ΔP _{F,e}	-0.0024	ΔP _{g,F}	-0.0090

热性质 Thermal Properties

T _g (°C)	557
T _s (°C)	590
T _{1014.5} (°C)	513
T ₁₀₁₃ (°C)	538
T _{107.6} (°C)	641
α _{-30/70°C} (10 ⁻⁷ /K)	56
α _{100/300°C} (10 ⁻⁷ /K)	72
λ(W/m·K)	

内透射率 Internal Transmittance

λ(nm)	τ _{5mm}	τ _{10mm}
2400	0.825	0.681
2200	0.953	0.909
2000	0.982	0.964
1800	0.994	0.988
1600	0.998	0.996
1400	0.998	0.997
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.997
700	0.998	0.996
650	0.998	0.996
600	0.997	0.995
550	0.997	0.995
500	0.997	0.995
480	0.996	0.993
460	0.995	0.991
440	0.993	0.987
420	0.991	0.983
400	0.986	0.973
390	0.981	0.962
380	0.970	0.940
370	0.948	0.898
360	0.908	0.824
350	0.847	0.717
340	0.750	0.563
330	0.628	0.394
320	0.486	0.236
310	0.316	0.100
300	0.214	0.046
290	0.145	0.021
280		

色散公式常数 Constants of Dispersion

K1	1.32239300E+000
L1	6.06224220E-003
K2	6.46347225E-001
L2	2.34824438E-002
K3	1.17507600E+000
L3	8.78164220E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	7.67E-06
D1	2.36E-08
D2	-1.95E-10
E0	6.35E-07
E1	3.67E-10
λ _{TK} (μm)	0.208

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	673
FA	101
E(10 ⁷ Pa)	11978
G(10 ⁷ Pa)	4614
μ	0.298
B(10 ⁻¹² /Pa)	2.20

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40						
-40~-20	4.8	5.3	5.7	5.8	6.0	6.6
-20~0	5.8	6.4	6.8	7.2	7.5	7.9
0~20	6.0	6.6	7.2	7.3	8.2	8.9
20~40	6.4	7.2	7.4	7.5	8.3	9.0
40~60	6.6	7.3	7.6	7.6	8.5	9.1
60~80	7.0	7.4	7.6	7.9	8.5	9.3
80~100						
100~120						
120~140						

着色度 Color Code

λ ₈₀ /λ ₅	370/295
λ ₇₀ /λ ₅	

其他性质 Other Properties

ρ(g/cm ³)	4.26
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退火增值系数 ECFA.

β	145
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备注 Remarks

*:退火速率 anneal rate 25°C



D-LaF79S

731405

nd=

vd= 40.51

nF-nc= 0.01804

ne=

ve= 40.25

nF-nc'= 0.01826

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.68872
n _{1970.1}	1970.1	1.69535
n _{1529.6}	1529.6	1.70263
n _{1060.0}	1060.0	1.71089
n _t	1014.0	1.71192
n _s	852.1	1.71635
n _r	706.5	1.72244
nc	656.3	1.72542
nc'	643.9	1.72626
n _{He-Ne}	632.8	1.72705
n _D	589.3	1.73061
nd	587.6	1.73077
n _e	546.1	1.73505
n _F	486.1	1.74346
n _{F'}	480.0	1.74452
n _g	435.8	1.75378
n _h	404.7	1.76263
n _i	365.0	1.77837
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2456	P' _{s,t}	0.2426
P _{C,s}	0.5028	P' _{C,s}	0.5428
P _{d,C}	0.2967	P' _{d,C'}	0.2469
P _{e,d}	0.2374	P' _{e,d}	0.2345
P _{g,F}	0.5720	P' _{g,F'}	0.5067
P _{i,h}	0.8727	P' _{i,h}	0.8621

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0112	$\Delta P_{C,s}$	0.0053
$\Delta P_{F,e}$	-0.0015	$\Delta P_{g,F}$	-0.0047

热性质 Thermal Properties

T _g (°C)	496
T _s (°C)	535
T _{1014.5} (°C)	468
T ₁₀₁₃ (°C)	490
T _{107.6} (°C)	591
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	90
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	111
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.901	0.811
2200	0.972	0.944
2000	0.989	0.978
1800	0.997	0.994
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.998	0.996
600	0.997	0.995
550	0.997	0.994
500	0.995	0.990
480	0.993	0.986
460	0.990	0.980
440	0.986	0.972
420	0.980	0.961
400	0.967	0.935
390	0.952	0.906
380	0.930	0.864
370	0.890	0.800
360	0.820	0.680
350	0.670	0.450
340	0.350	0.120
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	2.65304565E-001
L1	4.20844257E-002
K2	1.45255300E+000
L2	1.17349281E+002
K3	1.65170500E+000
L3	9.35611594E-003

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	3
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	-1.27E-06
D1	1.38E-08
D2	-3.18E-11
E0	8.43E-07
E1	4.94E-10
$\lambda_{TK}(\mu\text{m})$	0.215

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	618
FA	158
E(10 ⁷ Pa)	11034
G(10 ⁷ Pa)	4367
μ	0.263
B(10 ⁻¹² /Pa)	2.08

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	1.1	1.8	2.1	2.3	3.0	3.7
-40~-20	1.2	1.9	2.2	2.6	3.2	3.9
-20~0	1.2	1.9	2.3	2.7	3.5	4.1
0~20	1.3	2.0	2.4	2.9	3.7	4.3
20~40	1.4	2.2	2.5	3.0	3.7	4.4
40~60	1.5	2.4	2.7	3.1	3.9	4.6
60~80	1.6	2.5	2.8	3.2	4.0	4.8
80~100	1.7	2.5	2.9	3.2	4.1	4.9
100~120	1.8	2.6	3.0	3.2	4.2	5.0
120~140	1.9	2.7	3.1	3.3	4.4	5.3

着色度 Color Code

λ_{80}/λ_5	395/340
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.21
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-LaF79S-25

730405

nd=

vd= 40.50

nF-nc= 0.01802

ne=

ve= 40.24

nF-nc'= 0.01824

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.68787
n _{1970.1}	1970.1	1.69449
n _{1529.6}	1529.6	1.70175
n _{1060.0}	1060.0	1.71000
n _t	1014.0	1.71102
n _s	852.1	1.71545
n _r	706.5	1.72153
nc	656.3	1.72451
nc'	643.9	1.72536
n _{He-Ne}	632.8	1.72615
n _D	589.3	1.72970
nd	587.6	1.72986
n _e	546.1	1.73414
n _F	486.1	1.74254
n _{F'}	480.0	1.74360
n _g	435.8	1.75284
n _h	404.7	1.76168
n _i	365.0	1.77741
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2456	P' _{s,t}	0.2426
P _{C,s}	0.5028	P' _{C,s}	0.5429
P _{d,C}	0.2967	P' _{d,C'}	0.2469
P _{e,d}	0.2374	P' _{e,d}	0.2345
P _{g,F}	0.5718	P' _{g,F'}	0.5067
P _{i,h}	0.8727	P' _{i,h}	0.8621

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0113	$\Delta P_{C,s}$	0.0053
$\Delta P_{F,e}$	-0.0016	$\Delta P_{g,F}$	-0.0049

热性质 Thermal Properties

T _g (°C)	496
T _s (°C)	535
T _{1014.5} (°C)	468
T ₁₀₁₃ (°C)	490
T _{107.6} (°C)	591
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	90
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	111
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.901	0.811
2200	0.972	0.944
2000	0.989	0.978
1800	0.997	0.994
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.998	0.996
600	0.997	0.995
550	0.997	0.994
500	0.995	0.990
480	0.993	0.986
460	0.990	0.980
440	0.986	0.972
420	0.980	0.961
400	0.967	0.935
390	0.952	0.906
380	0.930	0.864
370	0.890	0.800
360	0.820	0.680
350	0.670	0.450
340	0.350	0.120
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	2.44124159E-001
L1	4.30784598E-002
K2	1.39592500E+000
L2	1.13324715E+002
K3	1.66977500E+000
L3	9.64211207E-003

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	3
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	-1.27E-06
D1	1.38E-08
D2	-3.18E-11
E0	8.43E-07
E1	4.94E-10
$\lambda_{TK}(\mu\text{m})$	0.215

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	618
FA	158
E(10 ⁷ Pa)	11034
G(10 ⁷ Pa)	4367
μ	0.263
B(10 ⁻¹² /Pa)	2.08

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	1.1	1.8	2.1	2.3	3.0	3.7
-40~-20	1.2	1.9	2.2	2.6	3.2	3.9
-20~0	1.2	1.9	2.3	2.7	3.5	4.1
0~20	1.3	2.0	2.4	2.9	3.7	4.3
20~40	1.4	2.2	2.5	3.0	3.7	4.4
40~60	1.5	2.4	2.7	3.1	3.9	4.6
60~80	1.6	2.5	2.8	3.2	4.0	4.8
80~100	1.7	2.5	2.9	3.2	4.1	4.9
100~120	1.8	2.6	3.0	3.2	4.2	5.0
120~140	1.9	2.7	3.1	3.3	4.4	5.3

着色度 Color Code

λ_{80}/λ_5	395/340
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	3.21
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-ZF10S

689311

nd=

vd= 31.08

nF-nc= 0.02217

ne=

ve= 30.84

nF-nc'= 0.02251

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.64507
n _{1970.1}	1970.1	1.65092
n _{1529.6}	1529.6	1.65759
n _{1060.0}	1060.0	1.66590
n _t	1014.0	1.66700
n _s	852.1	1.67192
n _r	706.5	1.67896
nc	656.3	1.68249
nc'	643.9	1.68350
n _{He-Ne}	632.8	1.68444
n _D	589.3	1.68874
n _d	587.6	1.68893
n _e	546.1	1.69417
n _F	486.1	1.70466
n _{F'}	480.0	1.70601
n _g	435.8	1.71795
n _h	404.7	1.72977
n _i	365.0	1.75200
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2218	P' _{s,t}	0.2184
P _{C,s}	0.4769	P' _{C,s}	0.5143
P _{d,C}	0.2905	P' _{d,C'}	0.2413
P _{e,d}	0.2362	P' _{e,d}	0.2326
P _{g,F}	0.5997	P' _{g,F'}	0.5306
P _{i,h}	1.0027	P' _{i,h}	0.9873

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0060	$\Delta P_{C,s}$	0.0017
$\Delta P_{F,e}$	0.0007	$\Delta P_{g,F}$	0.0070

热性质 Thermal Properties

T _g (°C)	507
T _s (°C)	548
T _{1014.5} (°C)	459
T ₁₀₁₃ (°C)	491
T _{107.6} (°C)	599
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	100
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	129
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.930	0.870
2200	0.957	0.916
2000	0.978	0.956
1800	0.989	0.979
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.997	0.994
650	0.996	0.992
600	0.996	0.993
550	0.996	0.993
500	0.992	0.984
480	0.989	0.978
460	0.985	0.971
440	0.981	0.963
420	0.972	0.945
400	0.940	0.883
390	0.890	0.800
380	0.810	0.650
370	0.600	0.360
360	0.220	0.050
350		
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.81090981E-001
L1	6.06385954E-002
K2	1.38321800E+000
L2	1.32946701E+002
K3	1.57814500E+000
L3	1.22919213E-002

化学性质 Chemical Properties

Grade	
DW	2
DA	1
CR	1
RC(S)	3
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-5.76E-06
D1	6.62E-09
D2	-3.57E-11
E0	9.80E-07
E1	1.12E-09
$\lambda_{TK}(\mu\text{m})$	0.261

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	589
FA	178
E(10 ⁷ Pa)	8790
G(10 ⁷ Pa)	3574
μ	0.23
B(10 ⁻¹² /Pa)	2.48

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-0.8	0.1	0.4	0.9	1.7	2.6
-40~-20	-0.8	0.0	0.4	0.8	1.7	2.6
-20~0	-0.9	0.0	0.2	0.8	1.6	2.7
0~20	-1.0	-0.1	0.2	0.7	1.7	2.8
20~40	-1.0	0.0	0.3	0.7	1.8	2.9
40~60	-1.1	0.1	0.4	0.9	1.8	3.2
60~80	-1.1	-0.1	0.4	0.8	1.9	3.2
80~100	-1.3	-0.2	0.4	0.6	2.0	3.3
100~120	-1.5	-0.3	0.4	0.6	2.0	3.3
120~140	-1.5	-0.4	0.3	0.7	2.0	3.5

着色度 Color Code

λ_{80}/λ_5	395/360
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	2.84
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-ZF10S-25

687312

nd=

vd= 31.18

nF-nc= 0.02204

ne=

ve= 30.94

nF-nc'= 0.02238

折射率 Refractive Index*

	λ(nm)	
n _{2325.4}	2325.4	1.64365
n _{1970.1}	1970.1	1.64948
n _{1529.6}	1529.6	1.65613
n _{1060.0}	1060.0	1.66440
n _t	1014.0	1.66550
n _s	852.1	1.67039
n _r	706.5	1.67739
nc	656.3	1.68091
nc'	643.9	1.68191
n _{He-Ne}	632.8	1.68285
n _D	589.3	1.68712
n _d	587.6	1.68731
n _e	546.1	1.69252
n _F	486.1	1.70295
n _{F'}	480.0	1.70429
n _g	435.8	1.71616
n _h	404.7	1.72789
n _i	365.0	1.74994
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2220	P' _{s,t}	0.2186
P _{C,s}	0.4772	P' _{C,s}	0.5146
P _{d,C}	0.2905	P' _{d,C'}	0.2414
P _{e,d}	0.2362	P' _{e,d}	0.2327
P _{g,F}	0.5992	P' _{g,F'}	0.5302
P _{i,h}	1.0003	P' _{i,h}	0.9851

异常色散 Abnormal Dispersions

ΔP _{C,t}	0.0060	ΔP _{C,s}	0.0017
ΔP _{F,e}	0.0007	ΔP _{g,F}	0.0067

热性质 Thermal Properties

T _g (°C)	507
T _s (°C)	548
T _{1014.5} (°C)	459
T ₁₀₁₃ (°C)	491
T _{107.6} (°C)	599
α _{-30/70°C} (10 ⁻⁷ /K)	100
α _{100/300°C} (10 ⁻⁷ /K)	129
λ(W/m·K)	

内透射率 Internal Transmittance

λ(nm)	τ _{5mm}	τ _{10mm}
2400	0.930	0.870
2200	0.957	0.916
2000	0.978	0.956
1800	0.989	0.979
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.997	0.994
650	0.996	0.992
600	0.996	0.993
550	0.996	0.993
500	0.992	0.984
480	0.989	0.978
460	0.985	0.971
440	0.981	0.963
420	0.972	0.945
400	0.940	0.883
390	0.890	0.800
380	0.810	0.650
370	0.600	0.360
360	0.220	0.050
350		
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.39531600E+000
L1	1.34661575E+002
K2	1.80389836E-001
L2	6.04305454E-002
K3	1.57395400E+000
L3	1.22657055E-002

化学性质 Chemical Properties

Grade	
DW	2
DA	1
CR	1
RC(S)	3
RA(S)	1

折射率温度系数常数 Constants of dn/dt

D0	-5.76E-06
D1	6.62E-09
D2	-3.57E-11
E0	9.80E-07
E1	1.12E-09
λ _{TK} (μm)	0.261

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	589
FA	178
E(10 ⁷ Pa)	8790
G(10 ⁷ Pa)	3574
μ	0.23
B(10 ⁻¹² /Pa)	2.48

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	-0.8	0.1	0.4	0.9	1.7	2.6
-40~-20	-0.8	0.0	0.4	0.8	1.7	2.6
-20~0	-0.9	0.0	0.2	0.8	1.6	2.7
0~20	-1.0	-0.1	0.2	0.7	1.7	2.8
20~40	-1.0	0.0	0.3	0.7	1.8	2.9
40~60	-1.1	0.1	0.4	0.9	1.8	3.2
60~80	-1.1	-0.1	0.4	0.8	1.9	3.2
80~100	-1.3	-0.2	0.4	0.6	2.0	3.3
100~120	-1.5	-0.3	0.4	0.6	2.0	3.3
120~140	-1.5	-0.4	0.3	0.7	2.0	3.5

着色度 Color Code

λ ₈₀ /λ ₅	395/360
λ ₇₀ /λ ₅	

其他性质 Other Properties

ρ(g/cm ³)	2.84
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-ZLaF50S

803455

nd=

vd= 45.49

nF-nc= 0.01766

ne=

ve= 45.24

nF-nc'= 0.01785

折射率 Refractive Index*

	λ(nm)	
n _{2325.4}	2325.4	1.76088
n _{1970.1}	1970.1	1.76773
n _{1529.6}	1529.6	1.77517
n _{1060.0}	1060.0	1.78355
n _t	1014.0	1.78458
n _s	852.1	1.78903
n _r	706.5	1.79512
nc	656.3	1.79808
nc'	643.9	1.79892
n _{He-Ne}	632.8	1.79970
n _D	589.3	1.80321
nd	587.6	1.80337
n _e	546.1	1.80757
n _F	486.1	1.81574
n _{F'}	480.0	1.81677
n _g	435.8	1.82562
n _h	404.7	1.83395
n _i	365.0	1.84843
n _{313.2}	313.2	1.87917
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2523	P' _{s,t}	0.2496
P _{C,s}	0.5123	P' _{C,s}	0.5537
P _{d,C}	0.2995	P' _{d,C'}	0.2495
P _{e,d}	0.2379	P' _{e,d}	0.2354
P _{g,F}	0.5593	P' _{g,F'}	0.4958
P _{i,h}	0.8199	P' _{i,h}	0.8111

异常色散 Abnormal Dispersions

ΔP _{C,t}	0.0040	ΔP _{C,s}	0.0031
ΔP _{F,e}	-0.0022	ΔP _{g,F}	-0.0089

热性质 Thermal Properties

T _g (°C)	605
T _s (°C)	642
T _{1014.5} (°C)	556
T ₁₀₁₃ (°C)	588
T _{107.6} (°C)	694
α _{-30/70°C} (10 ⁻⁷ /K)	62
α _{100/300°C} (10 ⁻⁷ /K)	75
λ(W/m·K)	

内透射率 Internal Transmittance

λ(nm)	τ _{5mm}	τ _{10mm}
2400	0.864	0.746
2200	0.963	0.928
2000	0.985	0.970
1800	0.995	0.991
1600	0.999	0.997
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.998	0.997
800	0.997	0.995
700	0.997	0.994
650	0.996	0.993
600	0.997	0.994
550	0.996	0.993
500	0.996	0.992
480	0.995	0.990
460	0.993	0.987
440	0.991	0.982
420	0.988	0.976
400	0.983	0.967
390	0.978	0.956
380	0.967	0.935
370	0.947	0.897
360	0.907	0.822
350	0.825	0.680
340	0.660	0.430
330	0.350	0.120
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.13755000E+000
L1	8.76010740E+001
K2	2.73775578E-001
L2	3.48809883E-002
K3	1.89653800E+000
L3	9.82589927E-003

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	4

折射率温度系数常数 Constants of dn/dt

D0	4.59E-06
D1	1.77E-08
D2	-4.18E-11
E0	8.47E-07
E1	3.91E-10
λ _{TK} (μm)	0.150

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	
FA	104
E(10 ⁷ Pa)	12174
G(10 ⁷ Pa)	4673
μ	0.302
B(10 ⁻¹² /Pa)	1.73

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	q
-60~-40						
-40~-20	4.6	5.5	5.6	5.8	6.7	7.2
-20~0	4.6	5.5	5.7	5.9	6.7	7.3
0~20	4.8	5.7	6.3	6.4	7.0	7.8
20~40	4.9	6.0	6.5	6.7	7.3	8.1
40~60	5.5	6.3	6.5	6.8	7.5	8.3
60~80	5.6	6.3	6.5	7.0	7.9	8.5
80~100						
100~120						
120~140						

着色度 Color Code

λ ₈₀ /λ ₅	380/330
λ ₇₀ /λ ₅	

其他性质 Other Properties

ρ(g/cm ³)	4.89
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-ZLaF50S-25

802455

nd=

vd= 45.45

nF-nc= 0.01765

ne=

ve= 45.20

nF-nc'= 0.01784

折射率 Refractive Index*

	λ(nm)	
n _{2325.4}	2325.4	1.75979
n _{1970.1}	1970.1	1.76663
n _{1529.6}	1529.6	1.77406
n _{1060.0}	1060.0	1.78244
n _t	1014.0	1.78347
n _s	852.1	1.78792
n _r	706.5	1.79400
nc	656.3	1.79697
nc'	643.9	1.79780
n _{He-Ne}	632.8	1.79858
n _D	589.3	1.80209
n _d	587.6	1.80225
n _e	546.1	1.80645
n _F	486.1	1.81462
n _{F'}	480.0	1.81564
n _g	435.8	1.82449
n _h	404.7	1.83281
n _i	365.0	1.84729
n _{313.2}	313.2	1.87804
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2524	P' _{s,t}	0.2496
P _{C,s}	0.5124	P' _{C,s}	0.5537
P _{d,C}	0.2994	P' _{d,C'}	0.2494
P _{e,d}	0.2380	P' _{e,d}	0.2354
P _{g,F}	0.5593	P' _{g,F'}	0.4958
P _{i,h}	0.8203	P' _{i,h}	0.8115

异常色散 Abnormal Dispersions

ΔP _{C,t}	0.0043	ΔP _{C,s}	0.0032
ΔP _{F,e}	-0.0022	ΔP _{g,F}	-0.0090

热性质 Thermal Properties

T _g (°C)	605
T _s (°C)	642
T _{1014.5} (°C)	556
T ₁₀₁₃ (°C)	588
T _{107.6} (°C)	694
α _{-30/70°C} (10 ⁻⁷ /K)	62
α _{100/300°C} (10 ⁻⁷ /K)	75
λ(W/m·K)	

内透射率 Internal Transmittance

λ(nm)	τ _{5mm}	τ _{10mm}
2400	0.864	0.746
2200	0.963	0.928
2000	0.985	0.970
1800	0.995	0.991
1600	0.999	0.997
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.998	0.997
800	0.997	0.995
700	0.997	0.994
650	0.996	0.993
600	0.997	0.994
550	0.996	0.993
500	0.996	0.992
480	0.995	0.990
460	0.993	0.987
440	0.991	0.982
420	0.988	0.976
400	0.983	0.967
390	0.978	0.956
380	0.967	0.935
370	0.947	0.897
360	0.907	0.822
350	0.825	0.680
340	0.660	0.430
330	0.350	0.120
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	2.81077862E-001
L1	3.46761122E-002
K2	1.19505400E+000
L2	9.18385620E+001
K3	1.88534000E+000
L3	9.75311827E-003

化学性质 Chemical Properties

Grade	
DW	1
DA	3
CR	1
RC(S)	1
RA(S)	4

折射率温度系数常数 Constants of dn/dt

D0	4.59E-06
D1	1.77E-08
D2	-4.18E-11
E0	8.47E-07
E1	3.91E-10
λ _{TK} (μm)	0.150

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	
FA	104
E(10 ⁷ Pa)	12174
G(10 ⁷ Pa)	4673
μ	0.302
B(10 ⁻¹² /Pa)	1.73

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	q
-60~-40						
-40~-20	4.6	5.5	5.6	5.8	6.7	7.2
-20~0	4.6	5.5	5.7	5.9	6.7	7.3
0~20	4.8	5.7	6.3	6.4	7.0	7.8
20~40	4.9	6.0	6.5	6.7	7.3	8.1
40~60	5.5	6.3	6.5	6.8	7.5	8.3
60~80	5.6	6.3	6.5	7.0	7.9	8.5
80~100						
100~120						
120~140						

着色度 Color Code

λ ₈₀ /λ ₅	380/330
λ ₇₀ /λ ₅	

其他性质 Other Properties

ρ(g/cm ³)	4.89
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-ZLaF52S

810410

nd=

vd= 40.99

nF-nc= 0.01976

ne=

ve= 40.74

nF-nc'= 0.02000

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.76515
n _{1970.1}	1970.1	1.77202
n _{1529.6}	1529.6	1.77958
n _{1060.0}	1060.0	1.78833
n _t	1014.0	1.78943
n _s	852.1	1.79422
n _r	706.5	1.80087
nc	656.3	1.80413
nc'	643.9	1.80506
n _{He-Ne}	632.8	1.80593
n _D	589.3	1.80983
nd	587.6	1.81000
n _e	546.1	1.81469
n _F	486.1	1.82389
n _{F'}	480.0	1.82506
n _g	435.8	1.83516
n _h	404.7	1.84478
n _i	365.0	1.86180
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2428	P' _{s,t}	0.2399
P _{C,s}	0.5016	P' _{C,s}	0.5418
P _{d,C}	0.2969	P' _{d,C'}	0.2471
P _{e,d}	0.2375	P' _{e,d}	0.2347
P _{g,F}	0.5699	P' _{g,F'}	0.5049
P _{i,h}	0.8616	P' _{i,h}	0.8513

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0050	$\Delta P_{C,s}$	0.0030
$\Delta P_{F,e}$	-0.0016	$\Delta P_{g,F}$	-0.0060

热性质 Thermal Properties

T _g (°C)	546
T _s (°C)	582
T _{1014.5} (°C)	506
T ₁₀₁₃ (°C)	538
T _{107.6} (°C)	644
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	66
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	83
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.870	0.750
2200	0.961	0.924
2000	0.984	0.969
1800	0.996	0.992
1600	0.999	0.998
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.997
650	0.998	0.996
600	0.997	0.995
550	0.997	0.995
500	0.995	0.990
480	0.992	0.985
460	0.990	0.980
440	0.986	0.972
420	0.980	0.961
400	0.968	0.937
390	0.955	0.913
380	0.933	0.870
370	0.890	0.790
360	0.800	0.640
350	0.610	0.380
340	0.280	0.080
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.88205900E+000
L1	9.84915253E-003
K2	3.02908868E-001
L2	4.06191424E-002
K3	1.25387400E+000
L3	9.58936000E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	5.23E-06
D1	1.56E-08
D2	-3.55E-11
E0	8.33E-07
E1	7.37E-10
$\lambda_{TK}(\mu\text{m})$	0.217

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	662
FA	109
E(10 ⁷ Pa)	11506
G(10 ⁷ Pa)	4427
μ	0.3
B(10 ⁻¹² /Pa)	1.98

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	4.9	5.8	6.1	6.3	7.2	7.8
-40~-20	5.0	6.0	6.2	6.6	7.5	8.3
-20~0	5.1	6.0	6.4	6.7	7.5	8.5
0~20	5.3	6.1	6.7	6.9	7.7	8.6
20~40	5.5	6.4	7.0	7.3	8.1	8.9
40~60	5.7	6.8	7.1	7.4	8.4	9.4
60~80	5.7	6.9	7.2	7.5	8.5	9.6
80~100	5.9	6.9	7.3	7.8	8.8	9.8
100~120	5.9	7.0	7.4	8.0	9.1	9.9
120~140	6.0	7.2	7.6	8.1	9.2	10.3

着色度 Color Code

λ_{80}/λ_5	400/340
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.56
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退火增值系数 ECFA.

β	140
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备注 Remarks

*:退火速率 anneal rate 4°C



D-ZLaF52S-25

809410

nd=

vd= 40.97

nF-nc= 0.01974

ne=

ve= 40.71

nF-nc'= 0.01998

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.76400
n _{1970.1}	1970.1	1.77087
n _{1529.6}	1529.6	1.77843
n _{1060.0}	1060.0	1.78717
n _t	1014.0	1.78826
n _s	852.1	1.79306
n _r	706.5	1.79970
nc	656.3	1.80296
nc'	643.9	1.80388
n _{He-Ne}	632.8	1.80475
n _D	589.3	1.80865
n _d	587.6	1.80882
n _e	546.1	1.81351
n _F	486.1	1.82270
n _{F'}	480.0	1.82386
n _g	435.8	1.83396
n _h	404.7	1.84357
n _i	365.0	1.86058
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2428	P' _{s,t}	0.2399
P _{C,s}	0.5016	P' _{C,s}	0.5418
P _{d,C}	0.2968	P' _{d,C'}	0.2471
P _{e,d}	0.2375	P' _{e,d}	0.2346
P _{g,F}	0.5701	P' _{g,F'}	0.5050
P _{i,h}	0.8616	P' _{i,h}	0.8513

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0051	$\Delta P_{C,s}$	0.0030
$\Delta P_{F,e}$	-0.0016	$\Delta P_{g,F}$	-0.0058

热性质 Thermal Properties

T _g (°C)	546
T _s (°C)	582
T _{1014.5} (°C)	506
T ₁₀₁₃ (°C)	538
T _{107.6} (°C)	644
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	66
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	83
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.870	0.750
2200	0.961	0.924
2000	0.984	0.969
1800	0.996	0.992
1600	0.999	0.998
1400	0.998	0.996
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.998	0.997
650	0.998	0.996
600	0.997	0.995
550	0.997	0.995
500	0.995	0.990
480	0.992	0.985
460	0.990	0.980
440	0.986	0.972
420	0.980	0.961
400	0.968	0.937
390	0.955	0.913
380	0.933	0.870
370	0.890	0.790
360	0.800	0.640
350	0.610	0.380
340	0.280	0.080
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.85743600E+000
L1	9.62363649E-003
K2	3.23469818E-001
L2	3.98398414E-002
K3	1.28949500E+000
L3	9.84654690E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	5.23E-06
D1	1.56E-08
D2	-3.55E-11
E0	8.33E-07
E1	7.37E-10
$\lambda_{TK}(\mu m)$	0.217

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	662
FA	109
E(10 ⁷ Pa)	11506
G(10 ⁷ Pa)	4427
μ	0.3
B(10 ⁻¹² /Pa)	1.98

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	4.9	5.8	6.1	6.3	7.2	7.8
-40~-20	5.0	6.0	6.2	6.6	7.5	8.3
-20~0	5.1	6.0	6.4	6.7	7.5	8.5
0~20	5.3	6.1	6.7	6.9	7.7	8.6
20~40	5.5	6.4	7.0	7.3	8.1	8.9
40~60	5.7	6.8	7.1	7.4	8.4	9.4
60~80	5.7	6.9	7.2	7.5	8.5	9.6
80~100	5.9	6.9	7.3	7.8	8.8	9.8
100~120	5.9	7.0	7.4	8.0	9.1	9.9
120~140	6.0	7.2	7.6	8.1	9.2	10.3

着色度 Color Code

λ_{80}/λ_5	400/340
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	4.56
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退火增值系数 ECFA.

β	140
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备注 Remarks

*:退火速率 anneal rate 25°C



D-ZLaF61S

822427

nd=

vd= 42.71

nF-nc= 0.01926

ne=

ve= 42.45

nF-nc'= 0.01948

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.77879
n _{1970.1}	1970.1	1.78541
n _{1529.6}	1529.6	1.79272
n _{1060.0}	1060.0	1.80122
n _t	1014.0	1.80230
n _s	852.1	1.80699
n _r	706.5	1.81349
nc	656.3	1.81668
nc'	643.9	1.81758
n _{He-Ne}	632.8	1.81843
n _D	589.3	1.82224
nd	587.6	1.82241
n _e	546.1	1.82699
n _F	486.1	1.83594
n _{F'}	480.0	1.83706
n _g	435.8	1.84684
n _h	404.7	1.85610
n _i	365.0	1.87236
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2435	P' _{s,t}	0.2407
P _{C,s}	0.5034	P' _{C,s}	0.5440
P _{d,C}	0.2976	P' _{d,C'}	0.2477
P _{e,d}	0.2376	P' _{e,d}	0.2349
P _{g,F}	0.5662	P' _{g,F'}	0.5017
P _{i,h}	0.8442	P' _{i,h}	0.8345

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0006	$\Delta P_{C,s}$	0.0007
$\Delta P_{F,e}$	-0.0015	$\Delta P_{g,F}$	-0.0068

热性质 Thermal Properties

T _g (°C)	594
T _s (°C)	635
T _{1014.5} (°C)	554
T ₁₀₁₃ (°C)	585
T _{107.6} (°C)	696
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	66
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	85
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.885	0.784
2200	0.969	0.938
2000	0.987	0.973
1800	0.996	0.992
1600	0.999	0.997
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.997
650	0.998	0.996
600	0.997	0.994
550	0.997	0.994
500	0.996	0.993
480	0.993	0.987
460	0.991	0.983
440	0.988	0.976
420	0.984	0.968
400	0.974	0.948
390	0.962	0.926
380	0.943	0.890
370	0.902	0.814
360	0.815	0.665
350	0.627	0.393
340	0.292	0.085
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	4.27425861E-001
L1	3.44432034E-002
K2	1.80371400E+000
L2	8.78105499E-003
K3	1.26949200E+000
L3	9.97953720E+001

化学性质 Chemical Properties

Grade	
DW	2
DA	3
CR	1
RC(S)	1
RA(S)	4

折射率温度系数常数 Constants of dn/dt

D0	4.38E-06
D1	1.46E-08
D2	-1.77E-11
E0	7.39E-07
E1	6.32E-10
$\lambda_{TK}(\mu\text{m})$	0.229

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	691
FA	94
E(10 ⁷ Pa)	11842
G(10 ⁷ Pa)	4551
μ	0.301
B(10 ⁻¹² /Pa)	1.70

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	4.5	5.4	5.7	6.0	6.6	7.3
-40~-20	4.5	5.5	5.7	6.0	6.8	7.6
-20~0	4.7	5.6	5.8	6.2	6.9	7.7
0~20	4.9	5.6	5.9	6.3	7.2	8.1
20~40	5.1	5.7	6.1	6.5	7.3	8.3
40~60	5.2	6.0	6.4	6.8	7.7	8.5
60~80	5.3	6.2	6.7	7.0	7.9	8.9
80~100	5.4	6.5	6.9	7.1	8.1	9.1
100~120	5.5	6.7	7.1	7.4	8.3	9.3
120~140	5.7	7.1	7.4	7.7	8.5	9.7

着色度 Color Code

λ_{80}/λ_5	400/340
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.92
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-ZLaF61S-25

821427

nd=

vd= 42.67

nF-nc= 0.01925

ne=

ve= 42.41

nF-nc'= 0.01947

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.77774
n _{1970.1}	1970.1	1.78435
n _{1529.6}	1529.6	1.79165
n _{1060.0}	1060.0	1.80014
n _t	1014.0	1.80121
n _s	852.1	1.80589
n _r	706.5	1.81239
nc	656.3	1.81558
nc'	643.9	1.81649
n _{He-Ne}	632.8	1.81733
n _D	589.3	1.82114
nd	587.6	1.82131
n _e	546.1	1.82588
n _F	486.1	1.83483
n _{F'}	480.0	1.83596
n _g	435.8	1.84573
n _h	404.7	1.85499
n _i	365.0	1.87124
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2434	P' _{s,t}	0.2406
P _{C,s}	0.5035	P' _{C,s}	0.5440
P _{d,C}	0.2976	P' _{d,C'}	0.2478
P _{e,d}	0.2377	P' _{e,d}	0.2349
P _{g,F}	0.5662	P' _{g,F'}	0.5017
P _{i,h}	0.8444	P' _{i,h}	0.8346

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	-0.0004	$\Delta P_{C,s}$	0.0009
$\Delta P_{F,e}$	-0.0015	$\Delta P_{g,F}$	-0.0068

热性质 Thermal Properties

T _g (°C)	594
T _s (°C)	635
T _{1014.5} (°C)	554
T ₁₀₁₃ (°C)	585
T _{107.6} (°C)	696
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	66
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	85
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.885	0.784
2200	0.969	0.938
2000	0.987	0.973
1800	0.996	0.992
1600	0.999	0.997
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.997
650	0.998	0.996
600	0.997	0.994
550	0.997	0.994
500	0.996	0.993
480	0.993	0.987
460	0.991	0.983
440	0.988	0.976
420	0.984	0.968
400	0.974	0.948
390	0.962	0.926
380	0.943	0.890
370	0.902	0.814
360	0.815	0.665
350	0.627	0.393
340	0.292	0.085
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	3.84732157E-001
L1	3.55326906E-002
K2	1.84240900E+000
L2	9.16902721E-003
K3	1.21280800E+000
L3	9.59091640E+001

化学性质 Chemical Properties

	Grade
DW	2
DA	3
CR	1
RC(S)	1
RA(S)	4

折射率温度系数常数 Constants of dn/dt

D0	4.38E-06
D1	1.46E-08
D2	-1.77E-11
E0	7.39E-07
E1	6.32E-10
$\lambda_{TK}(\mu m)$	0.229

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	691
FA	94
E(10 ⁷ Pa)	11842
G(10 ⁷ Pa)	4551
μ	0.301
B(10 ⁻¹² /Pa)	1.70

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	4.5	5.4	5.7	6.0	6.6	7.3
-40~-20	4.5	5.5	5.7	6.0	6.8	7.6
-20~0	4.7	5.6	5.8	6.2	6.9	7.7
0~20	4.9	5.6	5.9	6.3	7.2	8.1
20~40	5.1	5.7	6.1	6.5	7.3	8.3
40~60	5.2	6.0	6.4	6.8	7.7	8.5
60~80	5.3	6.2	6.7	7.0	7.9	8.9
80~100	5.4	6.5	6.9	7.1	8.1	9.1
100~120	5.5	6.7	7.1	7.4	8.3	9.3
120~140	5.7	7.1	7.4	7.7	8.5	9.7

着色度 Color Code

λ_{80}/λ_5	400/340
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	4.92
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-ZLaF67S

884372

nd=
ne=

vd= 37.20
ve= 36.95

nF-nc= 0.02376
nF'-nc'= 0.02407

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.83467
n _{1970.1}	1970.1	1.84143
n _{1529.6}	1529.6	1.84907
n _{1060.0}	1060.0	1.85846
n _t	1014.0	1.85970
n _s	852.1	1.86519
n _r	706.5	1.87297
nc	656.3	1.87685
nc'	643.9	1.87795
n _{He-Ne}	632.8	1.87898
n _D	589.3	1.88364
nd	587.6	1.88385
n _e	546.1	1.88949
n _F	486.1	1.90061
n _{F'}	480.0	1.90202
ng	435.8	1.91433
nh	404.7	1.92616
ni	365.0	1.94732
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2311	P' _{s,t}	0.2280
P _{C,s}	0.4908	P' _{C,s}	0.5300
P _{d,C}	0.2947	P' _{d,C'}	0.2452
P _{e,d}	0.2372	P' _{e,d}	0.2341
P _{g,F}	0.5777	P' _{g,F'}	0.5115
P _{i,h}	0.8907	P' _{i,h}	0.8791

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0003	$\Delta P_{C,s}$	0.0011
$\Delta P_{F,e}$	-0.0012	$\Delta P_{g,F}$	-0.0047

热性质 Thermal Properties

T _g (°C)	604
T _s (°C)	651
T _{1014.5} (°C)	574
T ₁₀₁₃ (°C)	600
T _{107.6} (°C)	709
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	67
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	85
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.899	0.808
2200	0.971	0.942
2000	0.988	0.977
1800	0.997	0.993
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.996
700	0.997	0.994
650	0.996	0.992
600	0.995	0.991
550	0.995	0.991
500	0.991	0.983
480	0.987	0.974
460	0.982	0.965
440	0.974	0.948
420	0.962	0.925
400	0.931	0.867
390	0.898	0.807
380	0.840	0.706
370	0.729	0.532
360	0.520	0.270
350	0.212	0.045
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	2.10977600E+000
L1	1.11387894E-002
K2	3.24313074E-001
L2	4.53343987E-002
K3	1.37618200E+000
L3	1.04419884E+002

化学性质 Chemical Properties

Grade	
DW	1
DA	2
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	3.22E-06
D1	1.64E-08
D2	-4.25E-11
E0	8.62E-07
E1	7.87E-10
$\lambda_{TK}(\mu m)$	0.235

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	670
FA	97
E(10 ⁷ Pa)	12083
G(10 ⁷ Pa)	4626
μ	0.306
B(10 ⁻¹² /Pa)	1.58

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	3.8	4.8	5.2	5.6	6.4	7.4
-40~-20	4.0	4.9	5.2	5.6	6.6	7.4
-20~0	4.0	5.1	5.7	6.1	7.0	8.0
0~20	4.0	5.2	5.8	6.2	7.1	8.0
20~40	4.7	5.7	6.2	6.6	7.7	8.8
40~60	4.9	5.9	6.3	6.8	7.8	9.0
60~80	4.9	6.0	6.4	7.0	7.9	9.2
80~100	4.9	6.2	6.5	7.1	8.3	9.6
100~120	4.9	6.4	7.0	7.4	8.6	9.9
120~140	5.0	6.4	7.0	7.5	8.7	10.1

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	400/350

其他性质 Other Properties

$\rho(g/cm^3)$	5.50
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-ZLaF67S-25

883372

nd=

vd= 37.19

nF-nc= 0.02374

ne=

ve= 36.94

nF-nc'= 0.02405

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.83350
n _{1970.1}	1970.1	1.84024
n _{1529.6}	1529.6	1.84786
n _{1060.0}	1060.0	1.85724
n _t	1014.0	1.85847
n _s	852.1	1.86395
n _r	706.5	1.87173
nc	656.3	1.87560
nc'	643.9	1.87669
n _{He-Ne}	632.8	1.87772
n _D	589.3	1.88238
nd	587.6	1.88259
n _e	546.1	1.88822
n _F	486.1	1.89933
n _{F'}	480.0	1.90074
n _g	435.8	1.91304
n _h	404.7	1.92486
n _i	365.0	1.94599
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2309	P' _{s,t}	0.2279
P _{C,s}	0.4907	P' _{C,s}	0.5299
P _{d,C}	0.2947	P' _{d,C'}	0.2452
P _{e,d}	0.2372	P' _{e,d}	0.2341
P _{g,F}	0.5777	P' _{g,F'}	0.5115
P _{i,h}	0.8906	P' _{i,h}	0.8790

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0001	$\Delta P_{C,s}$	0.0010
$\Delta P_{F,e}$	-0.0012	$\Delta P_{g,F}$	-0.0047

热性质 Thermal Properties

T _g (°C)	604
T _s (°C)	651
T _{1014.5} (°C)	574
T ₁₀₁₃ (°C)	600
T _{107.6} (°C)	709
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	67
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	85
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.899	0.808
2200	0.971	0.942
2000	0.988	0.977
1800	0.997	0.993
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.996
700	0.997	0.994
650	0.996	0.992
600	0.995	0.991
550	0.995	0.991
500	0.991	0.983
480	0.987	0.974
460	0.982	0.965
440	0.974	0.948
420	0.962	0.925
400	0.931	0.867
390	0.898	0.807
380	0.840	0.706
370	0.729	0.532
360	0.520	0.270
350	0.212	0.045
340		
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.36012400E+000
L1	1.03579887E+002
K2	2.09601000E+000
L2	1.10379634E-002
K3	3.33537102E-001
L3	4.49413583E-002

化学性质 Chemical Properties

Grade	
DW	1
DA	2
CR	1
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	3.22E-06
D1	1.64E-08
D2	-4.25E-11
E0	8.62E-07
E1	7.87E-10
$\lambda_{TK}(\mu\text{m})$	0.235

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	670
FA	97
E(10 ⁷ Pa)	12083
G(10 ⁷ Pa)	4626
μ	0.306
B(10 ⁻¹² /Pa)	1.58

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	3.8	4.8	5.2	5.6	6.4	7.4
-40~-20	4.0	4.9	5.2	5.6	6.6	7.4
-20~0	4.0	5.1	5.7	6.1	7.0	8.0
0~20	4.0	5.2	5.8	6.2	7.1	8.0
20~40	4.7	5.7	6.2	6.6	7.7	8.8
40~60	4.9	5.9	6.3	6.8	7.8	9.0
60~80	4.9	6.0	6.4	7.0	7.9	9.2
80~100	4.9	6.2	6.5	7.1	8.3	9.6
100~120	4.9	6.4	7.0	7.4	8.6	9.9
120~140	5.0	6.4	7.0	7.5	8.7	10.1

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	400/350

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	5.50
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-ZLaF81S

809410

nd=

vd= 41.00

nF-nc= 0.01973

ne=

ve= 40.74

nF-nc'= 0.01997

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.76399
n _{1970.1}	1970.1	1.77086
n _{1529.6}	1529.6	1.77842
n _{1060.0}	1060.0	1.78716
n _t	1014.0	1.78825
n _s	852.1	1.79305
n _r	706.5	1.79968
nc	656.3	1.80294
nc'	643.9	1.80387
n _{He-Ne}	632.8	1.80473
n _D	589.3	1.80863
n _d	587.6	1.80880
n _e	546.1	1.81349
n _F	486.1	1.82267
n _{F'}	480.0	1.82383
n _g	435.8	1.83391
n _h	404.7	1.84352
n _i	365.0	1.86052
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2429	P' _{s,t}	0.2400
P _{C,s}	0.5017	P' _{C,s}	0.5420
P _{d,C}	0.2969	P' _{d,C'}	0.2471
P _{e,d}	0.2375	P' _{e,d}	0.2346
P _{g,F}	0.5700	P' _{g,F'}	0.5050
P _{i,h}	0.8619	P' _{i,h}	0.8516

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0052	$\Delta P_{C,s}$	0.0031
$\Delta P_{F,e}$	-0.0016	$\Delta P_{g,F}$	-0.0059

热性质 Thermal Properties

T _g (°C)	546
T _s (°C)	584
T _{1014.5} (°C)	508
T ₁₀₁₃ (°C)	539
T _{107.6} (°C)	640
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	64
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	81
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.870	0.760
2200	0.967	0.934
2000	0.987	0.974
1800	0.998	0.996
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.998
550	0.999	0.998
500	0.996	0.992
480	0.994	0.988
460	0.991	0.982
440	0.987	0.975
420	0.982	0.965
400	0.971	0.942
390	0.958	0.919
380	0.936	0.877
370	0.890	0.800
360	0.800	0.650
350	0.620	0.380
340	0.280	0.080
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.88618700E+000
L1	9.91169456E-003
K2	2.94671923E-001
L2	4.09687608E-002
K3	1.27989100E+000
L3	9.77975310E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	4.97E-06
D1	1.47E-08
D2	-2.54E-11
E0	9.18E-07
E1	8.50E-10
$\lambda_{TK}(\mu m)$	0.182

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	668
FA	
E(10 ⁷ Pa)	11405
G(10 ⁷ Pa)	4433
μ	0.286
B(10 ⁻¹² /Pa)	

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	5.1	5.4	5.9	6.3	7.1	7.9
-40~-20	5.1	5.7	6.2	6.4	7.3	8.3
-20~0	5.2	6.0	6.4	6.7	7.5	8.5
0~20	5.3	6.2	6.5	6.9	7.7	8.6
20~40	5.4	6.4	6.7	7.1	8.0	8.7
40~60	5.4	6.7	6.9	7.3	8.3	9.0
60~80	5.6	6.9	7.2	7.6	8.6	9.4
80~100	5.8	7.0	7.4	7.9	8.8	9.8
100~120	5.9	7.2	7.5	8.1	8.9	10.1
120~140	6.1	7.2	7.5	8.2	8.9	10.1

着色度 Color Code

λ_{80}/λ_5	400/340
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	4.55
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-ZLaF81S-25

808410

nd=

vd= 40.97

nF-nc= 0.01971

ne=

ve= 40.72

nF-nc'= 0.01995

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.76282
n _{1970.1}	1970.1	1.76967
n _{1529.6}	1529.6	1.77721
n _{1060.0}	1060.0	1.78594
n _t	1014.0	1.78704
n _s	852.1	1.79183
n _r	706.5	1.79846
nc	656.3	1.80172
nc'	643.9	1.80264
n _{He-Ne}	632.8	1.80350
n _D	589.3	1.80740
nd	587.6	1.80757
n _e	546.1	1.81225
n _F	486.1	1.82143
n _{F'}	480.0	1.82259
n _g	435.8	1.83266
n _h	404.7	1.84226
n _i	365.0	1.85925
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2429	P' _{s,t}	0.2400
P _{C,s}	0.5019	P' _{C,s}	0.5420
P _{d,C}	0.2969	P' _{d,C'}	0.2472
P _{e,d}	0.2375	P' _{e,d}	0.2346
P _{g,F}	0.5699	P' _{g,F'}	0.5048
P _{i,h}	0.8620	P' _{i,h}	0.8517

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0055	$\Delta P_{C,s}$	0.0033
$\Delta P_{F,e}$	-0.0017	$\Delta P_{g,F}$	-0.0060

热性质 Thermal Properties

T _g (°C)	546
T _s (°C)	584
T _{1014.5} (°C)	508
T ₁₀₁₃ (°C)	539
T _{107.6} (°C)	640
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	64
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	81
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.870	0.760
2200	0.967	0.934
2000	0.987	0.974
1800	0.998	0.996
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.998
550	0.999	0.998
500	0.996	0.992
480	0.994	0.988
460	0.991	0.982
440	0.987	0.975
420	0.982	0.965
400	0.971	0.942
390	0.958	0.919
380	0.936	0.877
370	0.890	0.800
360	0.800	0.650
350	0.620	0.380
340	0.280	0.080
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.90958900E+000
L1	1.02182934E-002
K2	2.66893029E-001
L2	4.21328917E-002
K3	1.26586000E+000
L3	9.70733260E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	6
CR	
RC(S)	1
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	4.97E-06
D1	1.47E-08
D2	-2.54E-11
E0	9.18E-07
E1	8.50E-10
$\lambda_{TK}(\mu m)$	0.182

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	668
FA	
E(10 ⁷ Pa)	11405
G(10 ⁷ Pa)	4433
μ	0.286
B(10 ⁻¹² /Pa)	

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	5.1	5.4	5.9	6.3	7.1	7.9
-40~-20	5.1	5.7	6.2	6.4	7.3	8.3
-20~0	5.2	6.0	6.4	6.7	7.5	8.5
0~20	5.3	6.2	6.5	6.9	7.7	8.6
20~40	5.4	6.4	6.7	7.1	8.0	8.7
40~60	5.4	6.7	6.9	7.3	8.3	9.0
60~80	5.6	6.9	7.2	7.6	8.6	9.4
80~100	5.8	7.0	7.4	7.9	8.8	9.8
100~120	5.9	7.2	7.5	8.1	8.9	10.1
120~140	6.1	7.2	7.5	8.2	8.9	10.1

着色度 Color Code

λ_{80}/λ_5	400/340
λ_{70}/λ_5	

其他性质 Other Properties

$\rho(g/cm^3)$	4.55
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-ZLaF85S

846401

nd=

vd= 40.09

nF-nc= 0.02109

ne=

ve= 39.84

nF-nc'= 0.02135

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.79926
n _{1970.1}	1970.1	1.80610
n _{1529.6}	1529.6	1.81368
n _{1060.0}	1060.0	1.82264
n _t	1014.0	1.82379
n _s	852.1	1.82882
n _r	706.5	1.83586
nc	656.3	1.83933
nc'	643.9	1.84031
n _{He-Ne}	632.8	1.84124
n _D	589.3	1.84540
n _d	587.6	1.84558
n _e	546.1	1.85059
n _F	486.1	1.86042
n _{F'}	480.0	1.86167
n _g	435.8	1.87247
n _h	404.7	1.88278
n _i	365.0	1.90102
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2387	P' _{s,t}	0.2358
P _{C,s}	0.4982	P' _{C,s}	0.5382
P _{d,C}	0.2963	P' _{d,C'}	0.2466
P _{e,d}	0.2375	P' _{e,d}	0.2346
P _{g,F}	0.5714	P' _{g,F'}	0.5062
P _{i,h}	0.8649	P' _{i,h}	0.8543

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0018	$\Delta P_{C,s}$	0.0017
$\Delta P_{F,e}$	-0.0015	$\Delta P_{g,F}$	-0.0060

热性质 Thermal Properties

T _g (°C)	614
T _s (°C)	642
T _{1014.5} (°C)	564
T ₁₀₁₃ (°C)	594
T _{107.6} (°C)	703
$\alpha_{-30/70^{\circ}\text{C}}(10^{-7}/\text{K})$	63
$\alpha_{100/300^{\circ}\text{C}}(10^{-7}/\text{K})$	82
$\lambda(\text{W}/\text{m}\cdot\text{K})$	

内透射率 Internal Transmittance

λ (nm)	$\tau_{5\text{mm}}$	$\tau_{10\text{mm}}$
2400	0.882	0.778
2200	0.969	0.939
2000	0.988	0.976
1800	0.997	0.994
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.997
650	0.998	0.996
600	0.997	0.995
550	0.997	0.995
500	0.997	0.994
480	0.995	0.990
460	0.993	0.986
440	0.991	0.982
420	0.987	0.974
400	0.976	0.952
390	0.962	0.926
380	0.941	0.885
370	0.893	0.798
360	0.797	0.635
350	0.587	0.344
340	0.257	0.066
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.92017100E+000
L1	9.61912144E-003
K2	3.86379063E-001
L2	3.89567837E-002
K3	1.29116600E+000
L3	9.79773330E+001

化学性质 Chemical Properties

Grade	
DW	1
DA	2
CR	1
RC(S)	2
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	4.18E-06
D1	1.74E-08
D2	-3.81E-11
E0	8.61E-07
E1	5.26E-10
$\lambda_{TK}(\mu\text{m})$	0.215

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	621
FA	102
E(10 ⁷ Pa)	11664
G(10 ⁷ Pa)	4458
μ	0.308
B(10 ⁻¹² /Pa)	1.64

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	4.2	5.2	5.6	5.8	6.7	7.5
-40~-20	4.3	5.3	5.7	6.0	6.9	7.7
-20~0	4.5	5.6	6.0	6.2	7.2	8.2
0~20	4.7	5.9	6.2	6.5	7.3	8.4
20~40	4.8	6.1	6.4	6.6	7.5	8.5
40~60	5.5	6.4	6.7	7.1	8.4	9.2
60~80	5.5	6.5	6.8	7.5	8.5	9.5
80~100	5.7	6.7	7.1	7.7	8.4	9.5
100~120	5.6	6.8	7.1	7.6	8.5	9.6
120~140	5.6	6.7	7.3	8.0	8.9	10.2

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	375/340

其他性质 Other Properties

$\rho(\text{g}/\text{cm}^3)$	4.96
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C



D-ZLaF85S-25

844401

nd=

vd= 40.07

nF-nc= 0.02108

ne=

ve= 39.81

nF-nc'= 0.02134

折射率 Refractive Index*

	λ (nm)	
n _{2325.4}	2325.4	1.79817
n _{1970.1}	1970.1	1.80499
n _{1529.6}	1529.6	1.81256
n _{1060.0}	1060.0	1.82151
n _t	1014.0	1.82266
n _s	852.1	1.82768
n _r	706.5	1.83471
nc	656.3	1.83819
nc'	643.9	1.83917
n _{He-Ne}	632.8	1.84009
n _D	589.3	1.84425
n _d	587.6	1.84443
n _e	546.1	1.84943
n _F	486.1	1.85926
n _{F'}	480.0	1.86050
n _g	435.8	1.87130
n _h	404.7	1.88159
n _i	365.0	1.89981
n _{313.2}	313.2	
n _{302.2}	302.2	

相对部分色散 Relative Partial Dispersions

P _{s,t}	0.2386	P' _{s,t}	0.2357
P _{C,s}	0.4983	P' _{C,s}	0.5382
P _{d,C}	0.2963	P' _{d,C'}	0.2467
P _{e,d}	0.2374	P' _{e,d}	0.2345
P _{g,F}	0.5713	P' _{g,F'}	0.5060
P _{i,h}	0.8645	P' _{i,h}	0.8539

异常色散 Abnormal Dispersions

$\Delta P_{C,t}$	0.0019	$\Delta P_{C,s}$	0.0018
$\Delta P_{F,e}$	-0.0015	$\Delta P_{g,F}$	-0.0062

热性质 Thermal Properties

T _g (°C)	614
T _s (°C)	642
T _{1014.5} (°C)	564
T ₁₀₁₃ (°C)	594
T _{107.6} (°C)	703
$\alpha_{-30/70^{\circ}C}(10^{-7}/K)$	63
$\alpha_{100/300^{\circ}C}(10^{-7}/K)$	82
$\lambda(W/m\cdot K)$	

内透射率 Internal Transmittance

λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.882	0.778
2200	0.969	0.939
2000	0.988	0.976
1800	0.997	0.994
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
700	0.999	0.997
650	0.998	0.996
600	0.997	0.995
550	0.997	0.995
500	0.997	0.994
480	0.995	0.990
460	0.993	0.986
440	0.991	0.982
420	0.987	0.974
400	0.976	0.952
390	0.962	0.926
380	0.941	0.885
370	0.893	0.798
360	0.797	0.635
350	0.587	0.344
340	0.257	0.066
330		
320		
310		
300		
290		
280		

色散公式常数 Constants of Dispersion

K1	1.22657100E+000
L1	9.36444850E+001
K2	3.67412001E-001
L2	3.94561365E-002
K3	1.93493900E+000
L3	9.82834958E-003

化学性质 Chemical Properties

Grade	
DW	1
DA	2
CR	1
RC(S)	2
RA(S)	3

折射率温度系数常数 Constants of dn/dt

D0	4.18E-06
D1	1.74E-08
D2	-3.81E-11
E0	8.61E-07
E1	5.26E-10
$\lambda_{TK}(\mu m)$	0.215

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	621
FA	102
E(10 ⁷ Pa)	11664
G(10 ⁷ Pa)	4458
μ	0.308
B(10 ⁻¹² /Pa)	1.64

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	t	C'	d	e	F'	g
-60~-40	4.2	5.2	5.6	5.8	6.7	7.5
-40~-20	4.3	5.3	5.7	6.0	6.9	7.7
-20~0	4.5	5.6	6.0	6.2	7.2	8.2
0~20	4.7	5.9	6.2	6.5	7.3	8.4
20~40	4.8	6.1	6.4	6.6	7.5	8.5
40~60	5.5	6.4	6.7	7.1	8.4	9.2
60~80	5.5	6.5	6.8	7.5	8.5	9.5
80~100	5.7	6.7	7.1	7.7	8.4	9.5
100~120	5.6	6.8	7.1	7.6	8.5	9.6
120~140	5.6	6.7	7.3	8.0	8.9	10.2

着色度 Color Code

λ_{80}/λ_5	
λ_{70}/λ_5	375/340

其他性质 Other Properties

$\rho(g/cm^3)$	4.96
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 25°C



D-FK61S

497815

nd=

vd= 81.50

nF-nc= 0.00610

ne=

ve= 80.90

nF-nc'= 0.00616

折射率 Refractive Index*

	λ(nm)	
n _{2325.4}		
n _{1970.1}		
n _{1548.1}	1548.1	1.48591
n _{1308.5}	1308.5	1.48768
n _t	1014.0	1.49007
n _{A'}	768.2	1.49299
n _r	706.5	1.49406
n _C	656.3	1.49514
n _{C'}	643.9	1.49543
n _D	589.3	1.49694
n _d	587.6	1.49700
n _e	546.1	1.49845
n _F	486.1	1.50124
n _{F'}	480.0	1.50159
n _g	435.8	1.50452
n _h	404.7	1.80722
n _i	365.0	1.51178

色散公式常数 Constants of Dispersion

A0	2.21783500E+000
A1	-5.59668476E-003
A2	8.37037526E-003
A3	1.09748500E-004
A4	-3.39839403E-006
A5	2.58363542E-007

折射率温度系数常数 Constants of dn/dt

D0	-1.91E-05
D1	-2.54E-09
D2	-5.06E-11
E0	3.29E-07
E1	5.19E-11
λTK(μm)	0.188

折射率温度系数 Temperature Coefficients of Refractive Index

温度范围(°C) Rang of Temperature	dn/dt relative (10 ⁻⁶ /°C)					
	1548.1	C'	d	e	F'	g
-60~-40						
-40~-20	-5.8		-5.5			-5.1
-20~0						
0~20	-6.2		-6.0			-5.6
20~40						
40~60	-6.7		-6.4			-6.1
60~80						
80~100						
100~120						
120~140						

相对部分色散 Relative Partial Dispersions

n _C -n _t	0.00507	θ _{C,t}	0.831
n _C -n _{A'}	0.00215	θ	0.352
n _d -n _C	0.00186	θ _{d,C}	0.305
n _e -n _C	0.00331	θ _{e,C}	0.543
n _g -n _d	0.00752	θ _{g,d}	1.233
n _g -n _F	0.00328	θ _{g,F}	0.538
n _h -n _g	0.00270	θ _{h,g}	0.443
n _i -n _g	0.00726	θ _{i,g}	1.190
n _{C'} -n _t	0.00536	θ' _{C,t}	0.870
n _e -n _{C'}	0.00302	θ	0.490
n _{F'} -n _e	0.00314	θ	0.510
n _i -n _{F'}	0.01019	θ' _{i,F'}	1.654

热性质 Thermal Properties

T _g (°C)	461
T _s (°C)	483
T _{1014.5} (°C)	
T ₁₀₁₃ (°C)	
T _{107.6} (°C)	
α _{-30/70°C} (10 ⁻⁷ /K)	134
α _{100/300°C} (10 ⁻⁷ /K)	154
λ(W/m·K)	0.740

化学性质 Chemical

化学性质 Chemical Properties	
Grade	
DW	1
DA	
RC(S)	
RA(S)	3

机械性质 Mechanical Properties

Hk(10 ⁷ Pa)	354
FA	450
E(10 ⁷ Pa)	7960
G(10 ⁷ Pa)	3090
μ	0.287
B(10 ⁻¹² /Pa)	

内透射率 Internal Transmittance

λ(nm)	τ _{3mm}	τ _{10mm}
2400		
2200		
2000	0.998	0.998
1500	0.998	0.998
1060	0.998	0.998
800	0.998	0.998
700	0.998	0.998
650	0.998	0.998
600	0.998	0.998
550	0.998	0.998
500	0.998	0.998
480	0.998	0.998
460	0.998	0.998
440	0.998	0.998
420	0.998	0.998
400	0.998	0.998
390	0.998	0.998
380	0.998	0.998
370	0.998	0.993
360	0.996	0.989
350	0.989	0.963
340	0.977	0.928
330	0.952	0.849
320	0.900	0.705
310	0.824	0.525
300	0.713	0.324
290	0.577	0.160
280	0.440	0.065
270	0.332	0.025

着色度 Color Code

λ ₈₀ /λ ₅	340/270
λ ₇₀ /λ ₅	

其他性质 Other Properties

ρ(g/cm ³)	3.60
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退火增值系数 ECFA.

β	
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备注 Remarks

*:退火速率 anneal rate 4°C