Datasheet

SF57HTultra
847238.551

n_d = 1.84666	ν_d = 23.83	$n_F - n_C$ = 0.035536
n_e = 1.85504	ν_e = 23.64	$n_{F'} - n_{C'}$ = 0.036166

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.79026
$n_{1970.1}$	1970.1	1.79539
$n_{1529.6}$	1529.6	1.80187
$n_{1060.0}$	1060.0	1.81185
n_t	1014.0	1.81335
n_s	852.1	1.82038
n_r	706.5	1.83102
n_C	656.3	1.83650
$n_{C'}$	643.8	1.83808
$n_{632.8}$	632.8	1.83957
n_D	589.3	1.84636
n_d	587.6	1.84666
n_e	546.1	1.85504
n_F	486.1	1.87204
$n_{F'}$	480.0	1.87425
n_g	435.8	1.89393
n_h	404.7	1.91366
n_i	365.0	
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	1.816513710
B_2	0.428893641
B_3	1.071862780
C_1	0.014370420
C_2	0.0592801172
C_3	121.41994200

Constants of Formula for dn/dT

D_0	7.26E-06
D_1	1.88E-08
D_2	-5.14E-11
E_0	1.96E-06
E_1	1.79E-09
λ_{TK} [µm]	0.276

Internal Transmittance τ_i

λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.91	0.80
2325	0.93	0.84
1970	0.980	0.951
1530	0.998	0.994
1060	0.999	0.999
700	0.999	0.997
660	0.998	0.996
620	0.998	0.996
580	0.998	0.996
546	0.998	0.995
500	0.996	0.989
460	0.991	0.978
436	0.985	0.962
420	0.971	0.93
405	0.94	0.86
400	0.92	0.82
390	0.83	0.63
380	0.62	0.30
370	0.25	0.03
365	0.10	
350		
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ70 /λ5	39/36

Remarks

lead containing glass type

suitable for precision molding

step 0.5 available

Relative Partial Dispersion P

$P_{s,t}$	0.1976
$P_{C,s}$	0.4539
$P_{d,C}$	0.2859
$P_{e,d}$	0.2356
$P_{g,F}$	0.6160
$P_{i,h}$	

Relative Partial Dispersion P'

$P'_{s,t}$	0.1942
$P'_{C',s}$	0.4895
$P'_{d,C'}$	0.2373
$P'_{e,d}$	0.2315
$P'_{g,F'}$	0.5443
$P'_{i,h}$	

Deviation of Rel. Partial Disp. ΔP from the normal line

$\Delta P_{C,t}$	-0.0065
$\Delta P_{C,s}$	-0.0046
$\Delta P_{F,e}$	0.0026
$\Delta P_{g,F}$	0.0123
$\Delta P_{i,g}$	

Chemical Properties

CR	2
FR	5
SR	52.3
AR	2.3
PR	4.3
SR-J	6
WR-J	1

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	8.3
$\alpha_{+20/+300°C}$ [10^{-6}/K]	9.2
T_g [°C]	414
$T_{10^{13}}$ [°C]	414
$T_{10^{7.6}}$ [°C]	507
c_p [J/(g*K)]	0.360
λ [W/(m•K)]	0.620
AT [°C]	449
ρ [g/cm^3]	5.51
E [10^3 N/mm^2]	54
µ	0.248
K [10^{-6} mm^2/N]	0.02
$HK_{0.1/20}$	350
HG	1
Abrasion Aa	344

Temperature Coefficients of the Refractive Index

	$\Delta n_{rel}/\Delta T$ [10^{-6}/K]			$\Delta n_{abs}/\Delta T$ [10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/-20	6.6	11.1	16.7	4.2	8.6	14.1
+20/+40	7.6	12.5	18.9	6.0	10.9	17.2
+60/+80	8.0	13.4	20.1	6.8	12.1	18.8