

IRG201 Ge33Se55As12

$n_{10.6} = 2.4940$

$v_{10.6} = 95.77$

$n_8 - n_{12.5} = 0.0156$

Refractive Indices

λ (μm)	n_λ
2.0	2.5293
3.0	2.5175
4.0	2.5127
5.0	2.5097
6.0	2.5072
7.0	2.5047
8.0	2.5021
9.0	2.4993
10.0	2.4961
11.0	2.4926
12.0	2.4886
12.5	2.4865
13.0	2.4843
14.0	2.4794

Chemical Properties (grade)

RC(S)	1
RA(S)	1
Dw	1
DA	1

Thermal Properties

Tg(°C)	362
Ts(°C)	410
$\alpha_{-40/55^\circ\text{C}}$ ($10^{-7}/\text{K}$)	117
$\alpha_{20/120^\circ\text{C}}$ ($10^{-7}/\text{K}$)	121
Cp(J/g·K)	

Mechanical Properties

HK(10^7Pa)	150
E(GPa)	21.7
G(GPa)	8.5
μ	0.27

Transmittance

λ (μm)	τ 2mm
20.0	0.027
19.0	0.053
18.0	0.032
17.0	0.128
16.0	0.503
15.0	0.650
14.0	0.669
13.0	0.622
12.0	0.614
11.0	0.656
10.0	0.702
9.5	0.704
9.0	0.701
8.5	0.702
8.0	0.698
7.5	0.697
7.0	0.694
6.5	0.689
6.0	0.692
5.5	0.692
5.0	0.688
4.5	0.685
4.0	0.685
3.5	0.681
3.0	0.678
2.5	0.684
2.0	0.680
1.5	0.682
1.0	0.663
0.8	0.550
0.6	
0.4	
0.2	

Constants of Dispersion Formula

A	2.5100146E+00
B	7.7495165E-02
C	4.9371281E-03
D	-1.3389514E-04
E	-1.3508347E-07
F	5.7156655E-11

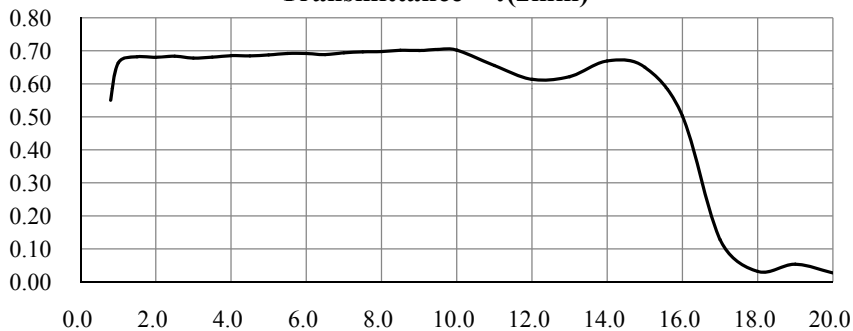
Temperature Coefficients of Refractive Index (-40 to 80 °C)

λ (μm)	$\Delta n_{\text{rel}} / \Delta t$ ($10^{-6} / ^\circ\text{C}$)
3	67
5	65
8	64
10	62
12	62

Other Properties

ρ (g/cm^3)	4.42
ϵ_r	

Transmittance τ (2mm)



IRG202 Ge22Se58As20

 $n_{10.6} = 2.4925$
 $\nu_{10.6} = 102.93$
 $n_8 - n_{12.5} = 0.0145$

Refractive Indices	
λ (μm)	n_λ
2.0	2.5265
3.0	2.5148
4.0	2.5101
5.0	2.5072
6.0	2.5047
7.0	2.5024
8.0	2.5000
9.0	2.4974
10.0	2.4944
11.0	2.4911
12.0	2.4875
12.5	2.4855
13.0	2.4835
14.0	2.4787

Chemical Properties (grade)	
RC(S)	1
RA(S)	1
Dw	2
DA	1

Thermal Properties	
Tg(°C)	282
Ts(°C)	352
$\alpha_{-40/55^\circ\text{C}}$ ($10^{-7}/\text{K}$)	156
$\alpha_{20/120^\circ\text{C}}$ ($10^{-7}/\text{K}$)	159
Cp(J/g·K)	

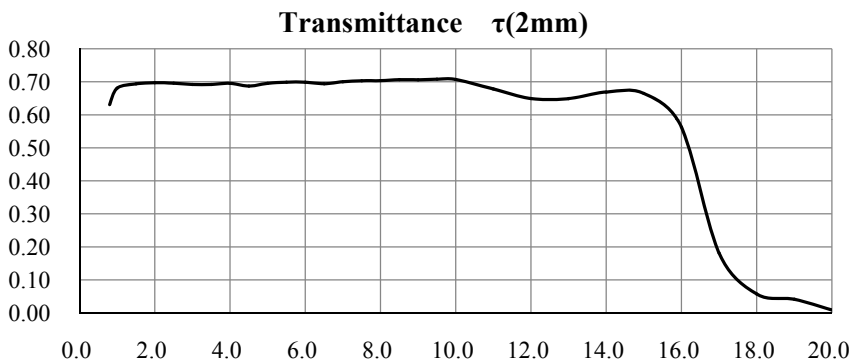
Mechanical Properties	
HK(10^7Pa)	152
E(GPa)	18.2
G(GPa)	7.1
μ	0.28

Constants of Dispersion Formula	
A	2.5074929E+00
B	7.5363484E-02
C	8.9642516E-03
D	-1.3362851E-04
E	-1.5544515E-08
F	-3.1301497E-10

Temperature Coefficients of Refractive Index (-40 to 80 °C)	
λ (μm)	$\Delta n_{\text{rel}} / \Delta t$ ($10^{-6} / ^\circ\text{C}$)
3	41
5	40
8	39
10	39
12	37

Other Properties	
ρ (g/cm^3)	4.41
ϵ_r	

Transmittance	
λ (μm)	τ 2mm
20.0	0.009
19.0	0.041
18.0	0.057
17.0	0.181
16.0	0.563
15.0	0.665
14.0	0.669
13.0	0.649
12.0	0.650
11.0	0.678
10.0	0.707
9.5	0.708
9.0	0.706
8.5	0.707
8.0	0.704
7.5	0.703
7.0	0.700
6.5	0.694
6.0	0.699
5.5	0.699
5.0	0.695
4.5	0.687
4.0	0.695
3.5	0.692
3.0	0.692
2.5	0.696
2.0	0.698
1.5	0.694
1.0	0.681
0.8	0.631
0.6	
0.4	
0.2	



IRG203 Ge₂₀Se₆₅Sb₁₅

$n_{10.6} = 2.5837$

$\nu_{10.6} = 86.07$

$n_8 - n_{12.5} = 0.0184$

Refractive Indices

λ (μm)	n_λ
2.0	2.6261
3.0	2.6118
4.0	2.6060
5.0	2.6024
6.0	2.5993
7.0	2.5963
8.0	2.5933
9.0	2.5899
10.0	2.5862
11.0	2.5820
12.0	2.5774
12.5	2.5749
13.0	2.5723
14.0	2.5666

Chemical Properties (grade)

RC(S)	1
RA(S)	1
Dw	2
DA	1

Thermal Properties

Tg(°C)	266
Ts(°C)	304
$\alpha_{-40/55^\circ\text{C}}$ ($10^{-7}/\text{K}$)	157
$\alpha_{20/120^\circ\text{C}}$ ($10^{-7}/\text{K}$)	165
Cp(J/g·K)	

Mechanical Properties

HK(10^7Pa)	137
E(GPa)	20
G(GPa)	7.8
μ	0.28

Transmittance

λ (μm)	τ 2mm
20.0	0.009
19.0	0.129
18.0	0.080
17.0	0.149
16.0	0.525
15.0	0.637
14.0	0.657
13.0	0.589
12.0	0.585
11.0	0.638
10.0	0.678
9.5	0.682
9.0	0.678
8.5	0.678
8.0	0.674
7.5	0.675
7.0	0.671
6.5	0.666
6.0	0.669
5.5	0.670
5.0	0.668
4.5	0.663
4.0	0.665
3.5	0.661
3.0	0.660
2.5	0.662
2.0	0.672
1.5	0.676
1.0	0.651
0.8	0.326
0.6	
0.4	
0.2	

Constants of Dispersion Formula

A	2.6027335E+00
B	9.4148223E-02
C	5.0288851E-03
D	-1.6360399E-04
E	-1.1188941E-07
F	-3.3257266E-11

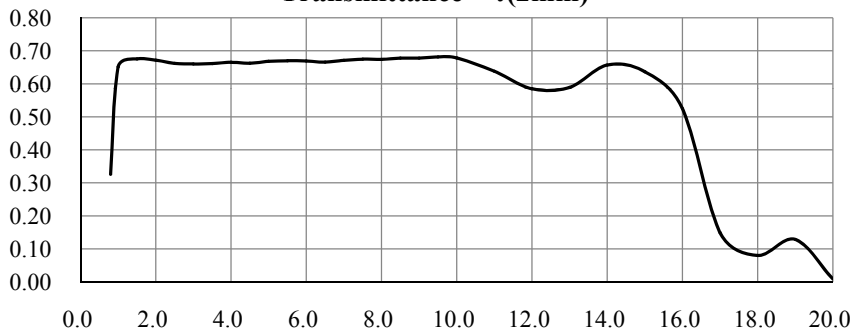
Temperature Coefficients of Refractive Index (-40 to 80 °C)

λ (μm)	$\Delta n_{\text{rel}} / \Delta t$ ($10^{-6} / ^\circ\text{C}$)
3	42
5	40
8	39
10	39
12	39

Other Properties

ρ (g/cm^3)	4.71
ϵ_r	10.11

Transmittance τ (2mm)



IRG204 Se63As30Sb4Sn3

 $n_{10.6} = 2.7659$
 $\nu_{10.6} = 132.77$
 $n_8 - n_{12.5} = 0.0133$

Refractive Indices

λ (μm)	n_λ
2.0	2.8095
3.0	2.7914
4.0	2.7846
5.0	2.7808
6.0	2.7779
7.0	2.7754
8.0	2.7730
9.0	2.7704
10.0	2.7677
11.0	2.7647
12.0	2.7614
12.5	2.7597
13.0	2.7578
14.0	2.7538

Chemical Properties (grade)

RC(S)	1
RA(S)	1
Dw	2
DA	1

Thermal Properties

Tg(°C)	167
Ts(°C)	207
$\alpha_{-40/55^\circ\text{C}}$ ($10^{-7}/\text{K}$)	203
$\alpha_{20/120^\circ\text{C}}$ ($10^{-7}/\text{K}$)	213
Cp(J/g·K)	

Mechanical Properties

HK(10^7Pa)	115
E(GPa)	18.8
G(GPa)	7.3
μ	0.29

Transmittance

λ (μm)	τ 2mm
20.0	0.003
19.0	0.119
18.0	0.450
17.0	0.574
16.0	0.614
15.0	0.608
14.0	0.610
13.0	0.648
12.0	0.663
11.0	0.672
10.0	0.675
9.5	0.674
9.0	0.670
8.5	0.670
8.0	0.669
7.5	0.667
7.0	0.662
6.5	0.647
6.0	0.660
5.5	0.662
5.0	0.661
4.5	0.661
4.0	0.658
3.5	0.656
3.0	0.654
2.5	0.654
2.0	0.651
1.5	0.644
1.0	0.583
0.8	
0.6	
0.4	
0.2	

Constants of Dispersion Formula

A	2.7790481E+00
B	1.1911498E-01
C	1.5043403E-02
D	-1.2268557E-04
E	-1.0906501E-08
F	-1.8517301E-10

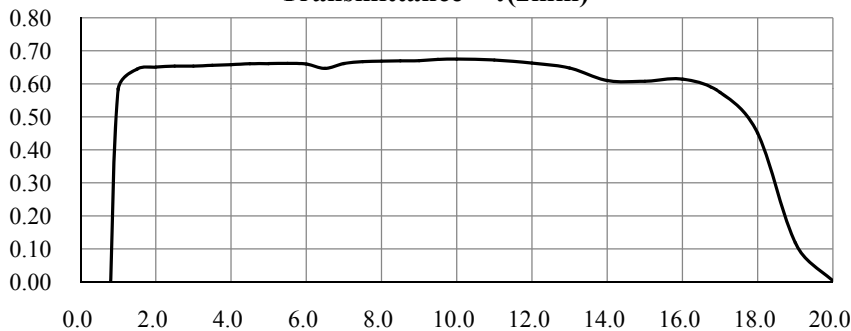
Temperature Coefficients of Refractive Index (-40 to 80 °C)

λ (μm)	$\Delta n_{\text{rel}} / \Delta t$ ($10^{-6} / ^\circ\text{C}$)
3	21
5	19
8	18
10	18
12	17

Other Properties

ρ (g/cm^3)	4.72
ϵ_r	

Transmittance τ (2mm)



IRG205 Ge₂₈Se₆₀Sb₁₂

$n_{10.6} = 2.6011$

$v_{10.6} = 93.63$

$n_8 - n_{12.5} = 0.0171$

Refractive Indices	
λ (μm)	n_λ
2.0	2.6423
3.0	2.6279
4.0	2.6222
5.0	2.6186
6.0	2.6157
7.0	2.6129
8.0	2.6100
9.0	2.6068
10.0	2.6033
11.0	2.5994
12.0	2.5952
12.5	2.5929
13.0	2.5905
14.0	2.5850

Chemical Properties (grade)	
RC(S)	1
RA(S)	1
Dw	1
DA	1

Thermal Properties	
Tg(°C)	285
Ts(°C)	315
$\alpha_{-40/55^\circ\text{C}}$ ($10^{-7}/\text{K}$)	136
$\alpha_{20/120^\circ\text{C}}$ ($10^{-7}/\text{K}$)	140
Cp(J/g·K)	0.33

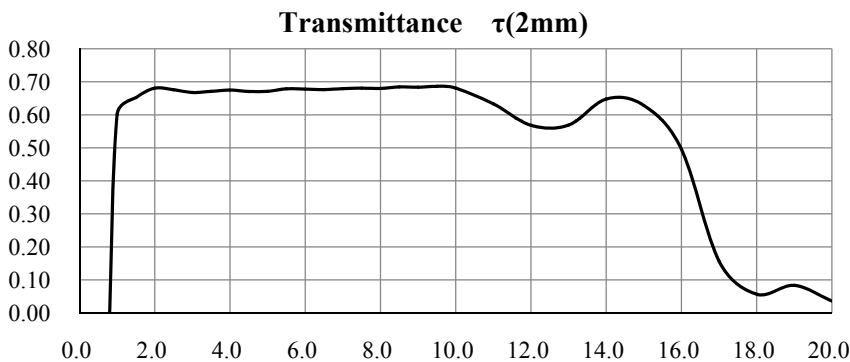
Mechanical Properties	
HK(10^7Pa)	132
E(GPa)	21.9
G(GPa)	8.6
μ	0.27

Constants of Dispersion Formula	
A	2.6191393E+00
B	8.9681707E-02
C	1.9616489E-02
D	-1.6512236E-04
E	1.7019611E-08
F	-3.7871669E-10

Temperature Coefficients of Refractive Index (-40 to 80 °C)	
λ (μm)	$\Delta n_{\text{rel}} / \Delta t$ ($10^{-6} / ^\circ\text{C}$)
3	72
5	70
8	70
10	70
12	70

Other Properties	
ρ (g/cm^3)	4.68
ϵ_r	9.71

Transmittance	
λ (μm)	τ 2mm
20.0	0.036
19.0	0.083
18.0	0.057
17.0	0.157
16.0	0.496
15.0	0.629
14.0	0.648
13.0	0.569
12.0	0.568
11.0	0.633
10.0	0.681
9.5	0.686
9.0	0.684
8.5	0.685
8.0	0.680
7.5	0.681
7.0	0.679
6.5	0.676
6.0	0.678
5.5	0.679
5.0	0.671
4.5	0.671
4.0	0.675
3.5	0.671
3.0	0.668
2.5	0.676
2.0	0.681
1.5	0.652
1.0	0.602
0.8	0.002
0.6	
0.4	
0.2	



IRG206

Se60As40

$n_{10.6} = 2.7764$

$\nu_{10.6} = 137.71$

$n_8 - n_{12.5} = 0.0129$

Refractive Indices

λ (μm)	n_λ
2.0	2.8197
3.0	2.8015
4.0	2.7947
5.0	2.7909
6.0	2.7880
7.0	2.7856
8.0	2.7832
9.0	2.7807
10.0	2.7781
11.0	2.7752
12.0	2.7720
12.5	2.7703
13.0	2.7685
14.0	2.7646

Chemical Properties (grade)

RC(S)	1
RA(S)	1
Dw	1
DA	1

Thermal Properties

Tg(°C)	180
Ts(°C)	217
$\alpha_{-40/55^\circ\text{C}}$ ($10^{-7}/\text{K}$)	205
$\alpha_{20/120^\circ\text{C}}$ ($10^{-7}/\text{K}$)	213
Cp(J/g·K)	0.24

Mechanical Properties

HK(10^7Pa)	118
E(GPa)	18.4
G(GPa)	7.1
μ	0.3

Transmittance

λ (μm)	τ 2mm
20.0	0.005
19.0	0.070
18.0	0.385
17.0	0.525
16.0	0.558
15.0	0.550
14.0	0.570
13.0	0.618
12.0	0.638
11.0	0.645
10.0	0.646
9.5	0.645
9.0	0.644
8.5	0.645
8.0	0.645
7.5	0.644
7.0	0.643
6.5	0.641
6.0	0.643
5.5	0.643
5.0	0.642
4.5	0.641
4.0	0.641
3.5	0.638
3.0	0.635
2.5	0.635
2.0	0.632
1.5	0.625
1.0	0.604
0.8	0.049
0.6	
0.4	
0.2	

Constants of Dispersion Formula

A	2.7890145E+00
B	1.2022832E-01
C	1.4096806E-02
D	-1.1959367E-04
E	3.8785934E-09
F	-2.3183781E-10

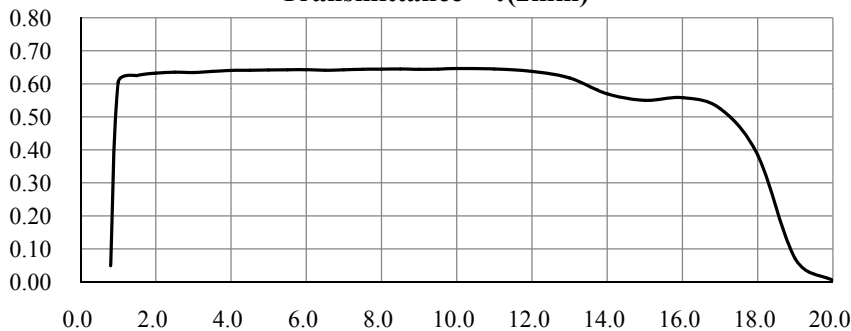
Temperature Coefficients of Refractive Index (-40 to 80 °C)

λ (μm)	$\Delta n_{\text{rel}} / \Delta t$ ($10^{-6} / ^\circ\text{C}$)
3	37
5	34
8	32
10	32
12	32

Other Properties

ρ (g/cm^3)	4.63
ϵ_r	

Transmittance τ (2mm)



IRG207 Ge10Se50As40

$n_{10.6} = 2.6075$

$v_{10.6} = 154.57$

$n_8 - n_{12.5} = 0.0104$

Refractive Indices

λ (μm)	n_λ
2.0	2.6418
3.0	2.6271
4.0	2.6219
5.0	2.6190
6.0	2.6168
7.0	2.6149
8.0	2.6130
9.0	2.6110
10.0	2.6089
11.0	2.6066
12.0	2.6040
12.5	2.6026
13.0	2.6011
14.0	2.5976

Chemical Properties (grade)

RC(S)	1
RA(S)	1
Dw	1
DA	1

Thermal Properties

Tg($^{\circ}\text{C}$)	220
Ts($^{\circ}\text{C}$)	277
$\alpha_{-40/55^{\circ}\text{C}}$ ($10^{-7}/\text{K}$)	
$\alpha_{20/120^{\circ}\text{C}}$ ($10^{-7}/\text{K}$)	200
Cp(J/g·K)	0.37

Mechanical Properties

HK(10^7Pa)	126
E(GPa)	
G(GPa)	
μ	

Constants of Dispersion Formula

A	2.6183123E+00
B	8.1664287E-02
C	5.3106591E-02
D	-1.1005200E-04
E	1.4671605E-07
F	-6.8842703E-10

Temperature Coefficients of Refractive Index (-40 to 80 $^{\circ}\text{C}$)

λ (μm)	$\Delta n_{\text{rel}} / \Delta t$ ($10^{-6} / ^{\circ}\text{C}$)
3	18
5	17
8	17
10	17
12	

Other Properties

ρ (g/cm^3)	4.49
ϵ_r	

Transmittance

λ (μm)	τ 2mm
20.0	0.015
19.0	0.074
18.0	0.188
17.0	0.371
16.0	0.618
15.0	0.644
14.0	0.635
13.0	0.589
12.0	0.598
11.0	0.652
10.0	0.682
9.5	0.683
9.0	0.678
8.5	0.679
8.0	0.674
7.5	0.674
7.0	0.672
6.5	0.668
6.0	0.667
5.5	0.667
5.0	0.663
4.5	0.660
4.0	0.660
3.5	0.656
3.0	0.654
2.5	0.650
2.0	0.651
1.5	0.653
1.0	0.612
0.8	0.399
0.6	
0.4	
0.2	

Transmittance τ (2mm)

