

# GASIR-1

Custom sizes and specifications are available

## COMPOSITION

$\text{Ge}_{22}\text{As}_{20}\text{Se}_{58}$

## OPTICAL

Transmittance range, microns 0.8 - 11

## THERMAL

Glass temperature 565 K  
Upper use temperature 523 K  
Specific heat 0.36 J/g\*K  
Thermal expansion coefficient (300K)  $17 \times 10^{-6}/\text{K}$   
Thermal conductivity (288 – 307K) 0.28 W/m\*K  
Heat Capacity 0.36 J/g\*K  
Dielectric constant  $> 20 \text{ M}\Omega$

## MECHANICAL

Density  $4.40(\pm 0.01) \times 10^3 \text{ kg/m}^3$   
Young's modulus 17.89 GPa  
Torsion modulus 6.98 GPa  
Poisson's ratio 0.28  
Flexion resistance 17.2 MPa  
Compression resistance 161 MPa  
Vickers hardness 170 HV

GASIR-1 is a registered trademark of Umicore Electro-Optic Materials.

## IR refractive index of Gasir-1

$\mu\text{m}$	Refractive Index
1.54	2.5424
2	2.5267
3	2.5148
3.5	2.5120
4	2.5100
4.5	2.5085
5	2.5071
6	2.5047
7	2.5024
8	2.4999
9	2.4973
10	2.4944
11	2.4911
12	2.4874
13	2.4834
14	2.4787

