

**DATA SHEET**
**Magnesium Fluoride (MgF<sub>2</sub>) Windows**
**MATERIAL DATA**

Optical Properties	
Transmission Range	110 nm to 7.5 μm
Transmittance	>90% at 193 nm to 6 μm
Refractive Index	N <sub>o</sub> =1.37608; N <sub>e</sub> =1.38771 (at 0.7 μm)
Reflection Loss	5.2% at 0.6 μm (both surfaces)
Residual Radiation Peak	20 nm
Absorption Coefficient	0.04 cm <sup>-1</sup> at 2.7 μm
dn/dT	2.3 x 10 <sup>-6</sup> /°C parallel c-axis 1.7 x 10 <sup>-6</sup> /°C perpendicular c-axis
Physical Properties	
Density	3.18 g/cm <sup>3</sup>
Melting Point	1255°C
Thermal Conductivity	0.3 Wm <sup>-1</sup> K <sup>-1</sup> at 300K
Thermal Expansion	13.7 x 10 <sup>-6</sup> /°C parallel c-axis 8.9 x 10 <sup>-6</sup> /°C perpendicular c-axis
Knoop Hardness	415 with 100g indenter (kg/mm <sup>2</sup> )
Specific Heat Capacity	1003 J/(kg.k)
Dielectric Constant	1.87 at 1MHz parallel c-axis 1.45 at 1MHz perpendicular c-axis
Youngs Modulus (E)	138.5 GPa
Shear Modulus (G)	54.66 GPa
Bulk Modulus (K)	101.32 GPa
Elastic Coefficient	C <sub>11</sub> =164; C <sub>12</sub> =53; C <sub>44</sub> =33.7 C <sub>13</sub> =63; C <sub>66</sub> =96
Apparent Elastic Limit	49.6 MPa (7200 psi)
Poisson Ratio	0.276
Chemical Properties	
Solubility	0.0002 g/ 100g water at 20°C
Molecular Weight	62.32
Structure	Tetragonal Crystal
Cleavage Plane	(110)

**T-CURVE(UV-IR)**

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