

## AGIR-4 DATA SHEET Ge<sub>10</sub>Se<sub>50</sub>As<sub>40</sub>

### MECHANICAL PROPERTIES

|                         |      |
|-------------------------|------|
| HK (10 <sup>7</sup> Pa) | 126  |
| E (GPa)                 | 15.6 |
| G (GPa)                 | 6.1  |
| $\mu$                   | 0.29 |

### THERMAL PROPERTIES

|  |      |
|--|------|
| T <sub>g</sub> (°C)                                      | 228  |
| T <sub>s</sub> (°C)                                      | 281  |
| $\alpha_{-60/120^{\circ}\text{C}}$ (10 <sup>-7</sup> /K) | 203  |
| $\alpha_{20/120^{\circ}\text{C}}$ (10 <sup>-7</sup> /K)  | 205  |
| C <sub>p</sub> (J/g-k)                                   | 0.37 |

### TEMPERATURE COEFFICIENTS OF REFRACTIVE INDEX

| $\lambda$ ( $\mu\text{m}$ ) | $dn_{\text{rel}}/dt$ |
|-----------------------------|----------------------|
| 3                           | 18                   |
| 5                           | 17                   |
| 8                           | 17                   |
| 10                          | 17                   |
| 12                          |                      |

### OPTICAL PROPERTIES

| Refractive Index            |               |
|-----------------------------|---------------|
| $\lambda$ ( $\mu\text{m}$ ) | $n_{\lambda}$ |
| 2.0                         | 2.6413        |
| 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                        | 2.5979        |

| Internal Transmittance      |           |
|-----------------------------|-----------|
| $\lambda$ ( $\mu\text{m}$ ) | $\tau$ mm |
| 17.0                        | 0.526     |
| 16.0                        | 0.865     |
| 15.0                        | 0.912     |
| 14.0                        | 0.902     |
| 13.0                        | 0.853     |
| 12.5                        | 0.873     |
| 12.0                        | 0.941     |
| 11.0                        | 0.983     |
| 10.0                        | 0.990     |
| 9.5                         | 0.996     |
| 9.0                         | 0.998     |
| 8.5                         | 0.998     |
| 8.0                         | 0.992     |
| 7.5                         | 0.996     |
| 7.0                         | 0.997     |
| 6.5                         | 0.998     |
| 6.0                         | 0.998     |
| 5.5                         | 0.996     |
| 5.0                         | 0.985     |
| 4.5                         | 0.982     |
| 4.0                         | 0.996     |
| 3.5                         | 0.996     |
| 3.0                         | 0.995     |
| 2.5                         | 0.996     |
| 2.0                         | 0.994     |
| 1.5                         | 0.992     |
| 1.0                         | 0.990     |