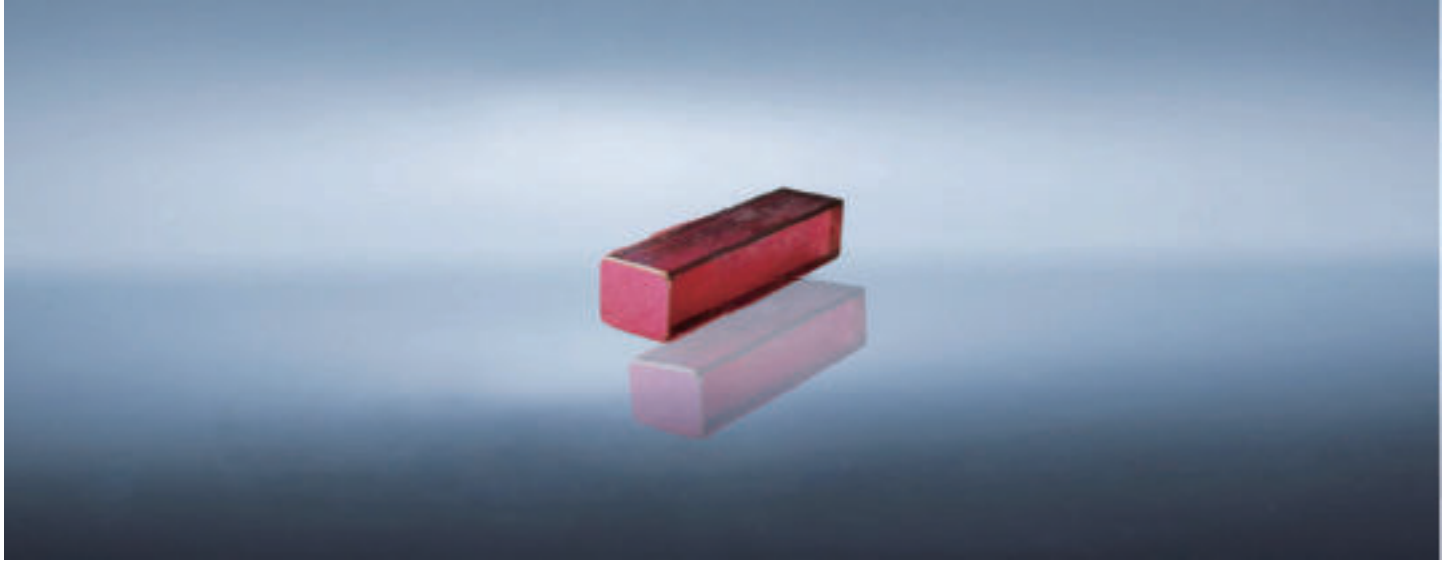


BaGa₂GeSe₆



DESCRIPTION

BaGa₂GeSe₆ (Barium Selenium Germanium Gallium), referred to as BGGSe crystal, is a tripartite crystal system R3 space group with high laser damage threshold, wide transmission range (0.5~18μm), moderate birefringence (0.08~0.11), large nonlinear coefficient (d₁₁=23.6 pm/V), stable chemical properties, no tedious post-treatment such as annealing and its surface high chemical stability, no post-growth treatment, high crystal symmetry, and easy processing. Capable of being pumped using Nd:YAG laser, it has important potential for infrared laser frequency conversion such as CO and CO₂ laser frequency doubling and optical parametric oscillation to generate mid- and far-infrared lasers. Due to the low dispersion nature and high damage threshold of the BGGSe crystal, it has advantages in ultra-wide mixing and ultra-short pulse output.

FEATURES

- Large nonlinear optical effect
- High laser damage threshold
- Wide range of light transmission
- High crystal symmetry, easy to process
- insoluble in dilute acids, good chemical stability
- No tedious post-processing such as annealing
- The frequency multiplication factor is 6 times that of AgGaS₂
- High transmittance and birefringence in the far infrared range

APPLICATIONS

- CO₂ Lasers
- CO and CO₂ Laser Doubling
- Optical parametric oscillation generates mid- and far-infrared lasers



BaGa₂GeSe₆

MACHINING PARAMETERS

| | |
|---------------------------|------------------------|
| Orientation accuracy | <+-0.1° |
| Surface finish | 20/10 per MIL-O-13830A |
| Face Type | λ/8@632.8nm for T>=1mm |
| Through surface tolerance | +0/-0.1mm |
| Length Tolerance | ±0.1mm |
| Parallelism | 30" |
| Verticality | 10' |
| Chamfer | <0.2mm×45° |

BASIC PERFORMANCE

| | |
|--------------------------|---|
| Crystallographic system | Cubic system, space group R3 |
| Nonlinear coefficient | d ₁₁ =66pm/V |
| damage threshold | 110MW/cm ² |
| Cell coefficient | a=9.5967(5)Å, b=9.5967(5)Å, c=8.6712(7)Å, α=β |
| Light transmission range | 0.5 - 18μm |
| Birefringence | 0.08-0.11 |
| melting point | 880°C |

SPECTRA

