

ZGP Zinc germanium phosphate :

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ZGP Zinc germanium phosphate crystal is an efficient mid-infrared nonlinear optical crystal material with a light transmittance range of 0.76~12.0 μ m, which can be applied to the optical parametric amplifier (OPA), optical parametric oscillator (OPO), two-wave coupling (SHG), four-wave coupling (FHG) and other mid-infrared bands.



The nonlinear sensitivity of ZGP crystal is about 160 times that of KDP (d36=75 pm/V). ZGP has good optical transparency in the range of 740-12000 nm and high laser damage threshold, making it very suitable for generating near-infrared tunable lasers.

Main features:

- Larger nonlinear coefficient
- Higher threshold for laser damage
- Higher thermal conductivity
- Stable mechanical properties
- Wider phase-matching range

Material Properties:

Crystal structure	tetragonal system
Cell parameters	a=b=54.76nm , c=107.31nm
Melting point	1027°C
Density	4.18g/cm ³
Microhardness	980 ± 80 kg/mm ²
Moh's hardness	5.5
Energy gap	2.34/2.08 eV
Semiconductor type	P
Heat conductivity	180 mW/(cm · K)
Penetration range	0.76 to 12.0 μ m
Nonlinear coefficient	d36=75 ± 8 pm/V

Product Parameter:

Crystal size	6mm x 6mm x 15mm; 6mm x 8mm x 20mm; customizable
Phase matching type	Class I or Class II matches
Directional deviation	≤0.5
Absorbance index	≤0.05cm ⁻¹ @ 2 μ m
Flatness	≤λ/6 @632.8nm
Parallelism	≤10"
Verticality	≤5'
Finish	20-10(MIL-O-13830A)