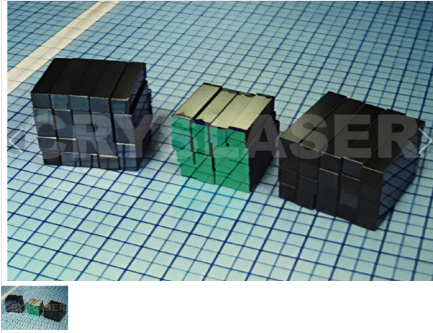




ZnGeP2

ZGP has good optical transparency in the 740 – 12000 nm range and high laser damage threshold, making it ideal for producing near-infrared tunable lasers.

Classification: [Nonlinear Crystals](#)

Detailed introduction

ZnGeP₂ (zinc germanium phosphide) crystals have many excellent properties and are mid-infrared nonlinear crystals. ZnGeP₂ (ZGP) crystals are approximately 160 times more sensitive than KDP (d36 to 75 pm/V). ZGP has good optical transparency in the 740 – 12000 nm range and high laser damage threshold, making it ideal for producing near-infrared tunable lasers.

PRODUCT FEATURE

Large nonlinearity coefficient The transmission area is 74 um to 12 um High relative damage threshold High thermal conductivity Wide transparent area Phase matching over a wide spectral range

Large nonlinearity coefficient

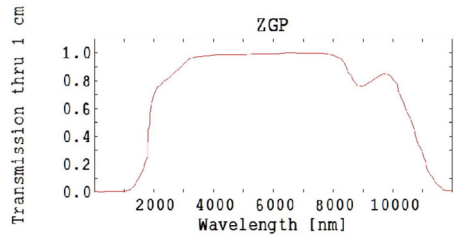
The transmission area is 74 um to 12 um

High relative damage threshold

High thermal conductivity

Wide transparent area

Phase matching over a wide spectral range



Specifications

Dimension Tolerance	(W±0.1mm)×(H±0.1mm)×(L±0.2mm/0.1mm)
Angle Tolerance	Δθ<±0.2° ; Δφ<±0.2°
Parallelism	<30"
Perpendicularity	<10"
Surface Quality (Scratch/Dig)	20/10 (MIL-PRF-13830B)
Flatness	<λ/8@633nm
Anti-Reflection Coating	According to customer requirements

Chemical and Structural Properties

Crystal Structure	tetragonal , 42m
Lattice Parameter	a=b=5.467Å, c=12.736Å
Melting Point	About 1040°C
Mohs Hardness	5.5
Density	4.17 g/cm ³
Thermal Conductivity	35.89 W/mK
Thermal Expansion Coefficients	β ₁ 5×10 ⁻⁶ /K; β ₂ 1.7×10 ⁻⁶ /K

Optical and Nonlinear Optical Properties

Transparency Range	0.74 ~ 12 um
SHG Phase Matchable Range	3177~10357nm (Type I)
Absorption Coefficients	α<0.05cm ⁻¹ @2050-2100 nm
Angular Acceptance	30° (2um~12um)
NLO Coefficients	D36=68.9pm/V (at 10.6um) =75.0 pm/V (at 9.6 um) d ₃₆ =75 ± 8 pm/V Type I d _{non} =d ₃₆ sin2θcos2φ Type II d _{non} =d ₃₆ sinθsin2φ no2(λ) = 4.64467+5.10087/(λ ² -0.13656)+4.27777λ ² /(λ ² -1653.89) ne2(λ) = 4.71539+5.26358/(λ ² -0.14396)+2.37310λ ² /(λ ² -1000.82)

Keywords: 磷化锗锌

Previous: [LiNbO3](#)

Next: [None](#)