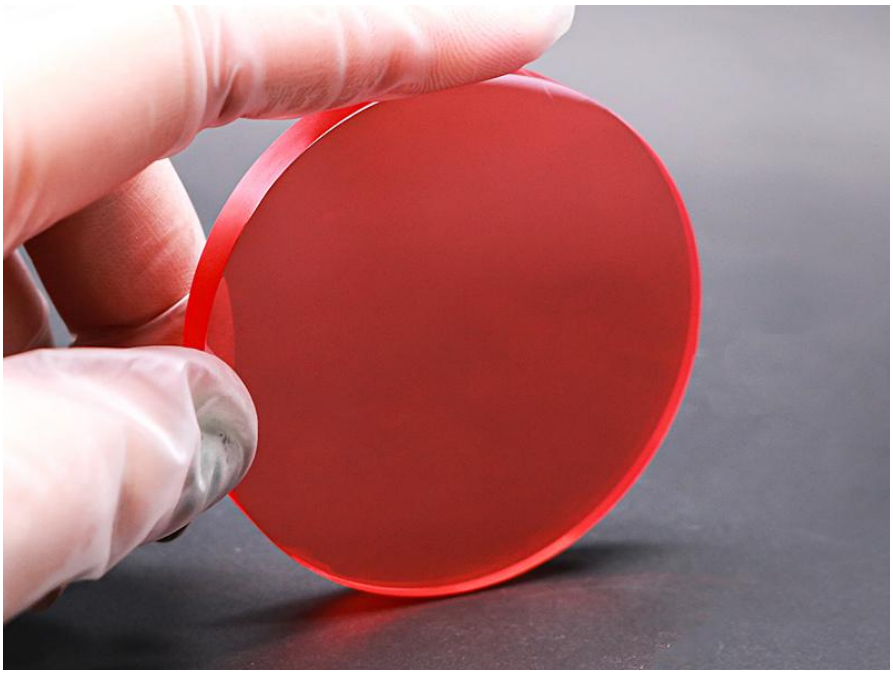
IR Polished KRS5 Thallium Bromide Iodide

Window 42mm Ø x 3mm



Product Description

KRS5, a deep infrared material with a high refractive index, is widely used in ATR prisms, windows, and lens spectroscopy. When combined with germanium, KRS5 can also be utilized in athermalized IR imaging systems. KRS-5 is produced using the sealed Stockbarger crystal growth technique. The highest purity starting materials are selected to ensure no anionic absorption bands between 2 µm and 16 µm, and the quality of all crystals

is verified using a 120mm path length. Note: Thallium salts are considered toxic and should be handled with care.

Product features

High numerical aperture, excellent collection efficiency、 Compact single lens design、 Diffraction limited design、 RoHS certified

Part Number

MP-OPW-KRS5-C42-3-IR

Application area

Deep infrared spectral analysis 、Ultraviolet laser transmission 、X-ray detection 、Infrared optics 、Epitaxial substrates

Core parameters

Wavelength	Reflective index	Size
0.6-40um	2.371@10um	42mmΦx3mm

General Parameters

Parameter

Transmission wavelength range:	0.6 to 40 µm
Refractive index:	2.371 at 10 µm (1)(3)

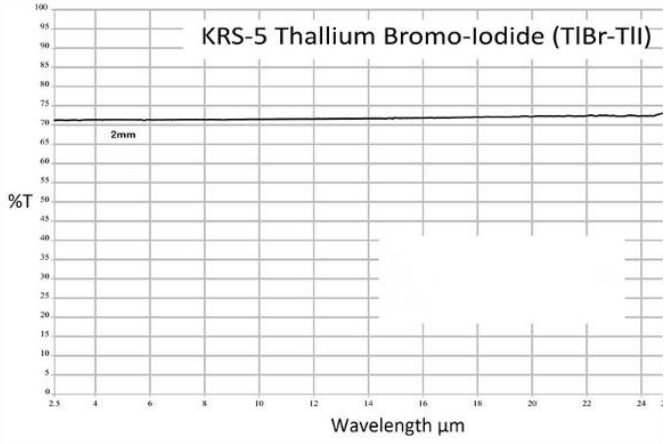
Reflection loss:	28.4% at 10 µm (2 surfaces)
Absorption coefficient:	n/a
Reststrahlen Peak:	n/a
dn/dT:	-235×10^{-6} /°C
dn/dµ = 0:	7 µm
Density:	7.371 g/cc (3)
Melting point:	414.5 °C (3)
Thermal conductivity:	0.544 $Wm^{-1} K^{-1}$ at 293K
Thermal expansion:	58×10^{-6} /°C (2)
Hardness:	Knoop 40.2 (2)
Specific heat capacity:	200 J $Kg^{-1} K^{-1}$ at 273K
Dielectric constant:	32.5
Youngs Modulus (E):	15.85 GPa (2)
Shear modulus (G):	5.79 GPa (2)
Volume modulus (K):	19.78 GPa (2)
Elastic modulus:	C_{11}=331; C_{12}=13.2; C_{44}=5.79
Apparent elastic limit:	26.2 MPa (2)
Poisson's ratio:	0.369
Solubility:	0.05g/100g water at 293K
Molecular weight:	42 mole% TlBr; 58 mole% TlI
Class/structure:	Cubic,CsCl structure, Pm3m, No cleavage (3)

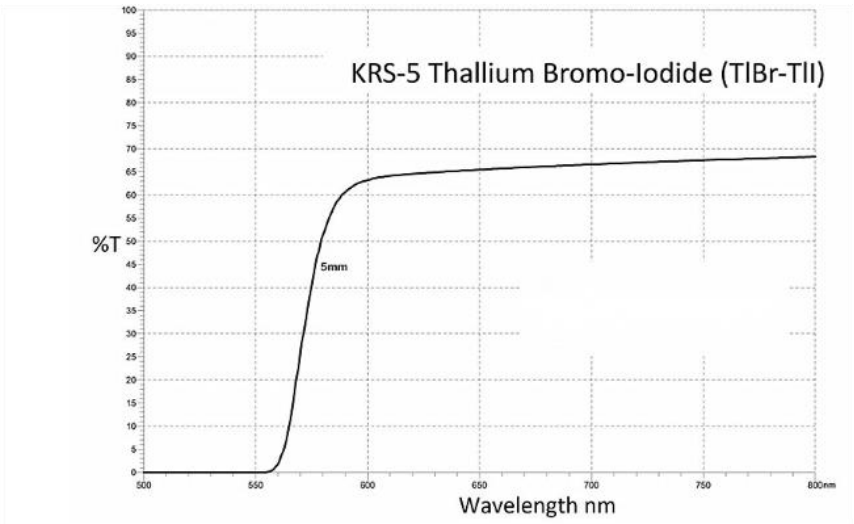
Note 1: Warning: Thallium salts are toxic and should be handled with caution.

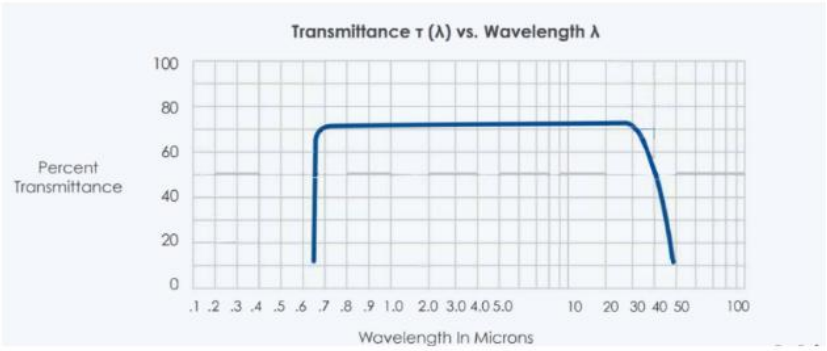
No = Ordinary Ray

µm	No	µm	No	µm	No
0.54	2.68059	1.00	2.44620	1.50	2.40774
2.00	2.39498	3.00	2.38574	4.00	2.38204
5.00	2.37979	6.00	2.37797	7.0	2.37627
8.0	2.37452	9.0	2.37267	10.0	2.37069
11.0	2.36854	12.0	2.36622	13.0	2.36371
14.0	2.36101	15.0	2.35812	16.0	2.35502
17.0	2.35173	18.0	2.34822	19.0	2.34451
20.0	2.34058	21.0	2.33643	22.0	2.33206
23.0	2.32746	24.0	2.32264	25.0	2.31758
26.0	2.31229	27.0	2.30676	28.0	2.30098
29.0	2.29495	30.0	2.28867	31.0	2.28212
32.0	2.27531	33.0	2.26823	34.0	2.26087
35.0	2.25322	36.0	2.24528	37.0	2.23705
38.0	2.22850	39.0	2.21965	40.0	2.21047

Transmission curve







Original factory PN# example

PN#	Dimension(D×L)(mm)	diameter (D)	Thickness(L)	S/D	Material Grade
MP-OPW-KRS5-C10-2-IR	10.0mm×2.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C12-2-IR	12.0mm×2.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C13-2-IR	13.0mm×2.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR

MP-OPW-KRS5-C20-2-IR	20.0mm×2.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C25-2-IR	25.0mm×2.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C25-4-IR	25.0mm×4.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C32-3-D-IR	32.0mm× 3.0mm Punched	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C32-3-IR	32.0mm× 3.0mm Not punched	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C35-2-IR	35.0mm×2.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C42-3-IR	42.0mm×3.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C50-4-IR	50.0mm×4.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR