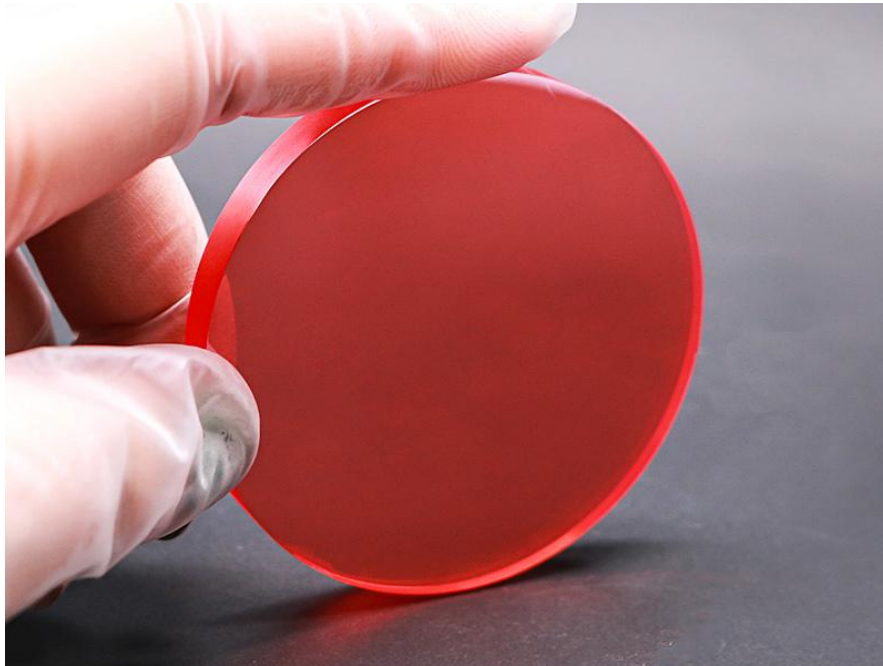


## IR Polished KRS5 Thallium Bromide Iodide

Window 25mm Ø x 4mm



### ● 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  $\mu\text{m}$  and 16  $\mu\text{m}$ , 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-C25-4-IR

## ● Application area

Deep infrared spectroscopy 、 Ultraviolet laser transmission 、 X-ray detection、 Infrared optics、 Epitaxial substrate

## ● Core parameters

Wavelength	Reflective index	Size
0.6-40um	2.371@10um	25mmΦx4mm

## ● General Parameters

Parameter

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



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

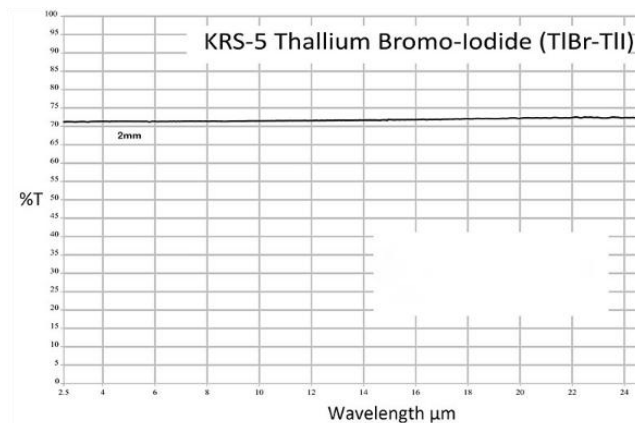
**Note 1: Warning: Thallium salts are toxic and should be handled with caution.**

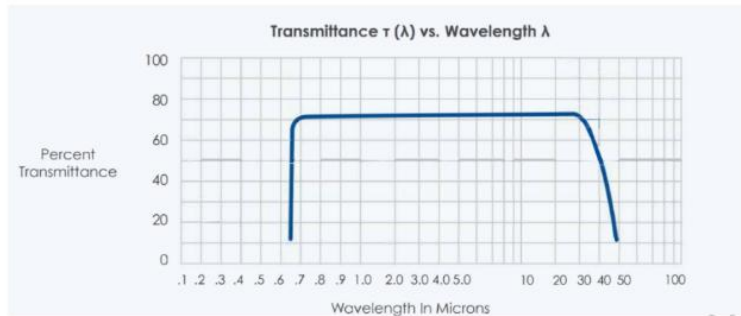
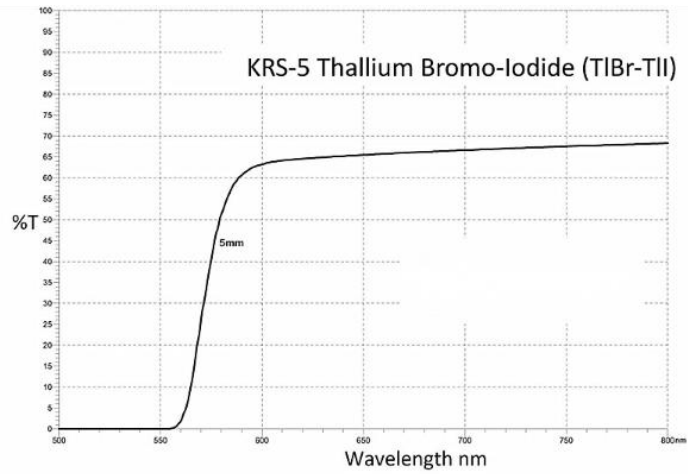


## No = Ordinary Ray

$\mu\text{m}$	No	$\mu\text{m}$	No	$\mu\text{m}$	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 model example

PN#	Dimension(D×L)(mm)	diameter (D)	Thickness(L)	S/D	Material Grade
MP-OPW-KRS5-C 10-2-IR	10.0mm×2.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C 12-2-IR	12.0mm×2.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C 13-2-IR	13.0mm×2.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C	20.0mm×2.0mm	+0.2/-0.0	±0.1mm	60/40	IR



20-2-IR		mm			
MP-OPW-KRS5-C 25-2-IR	25.0mm × 2.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C 25-4-IR	25.0mm × 4.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C 32-3-D-IR	32.0mm × 3.0mm Punched	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C 32-3-IR	32.0mm × 3.0mm Not punched	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C 35-2-IR	35.0mm × 2.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C 42-3-IR	42.0mm × 3.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR
MP-OPW-KRS5-C 50-4-IR	50.0mm × 4.0mm	+0.2/-0.0 mm	±0.1mm	60/40	IR