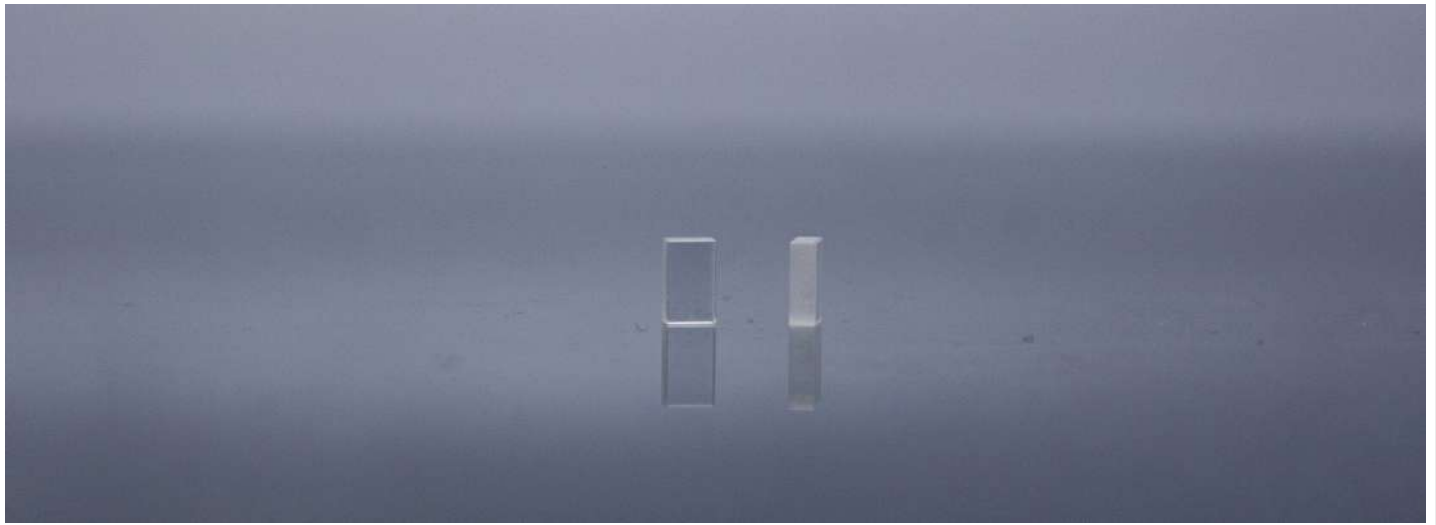




DESCRIPTION

Potassium Bromide (KBr) crystal is water-soluble, and it is easily deliquescent. That cannot be chemically polished. It has a high transmittance and a wide pass band, so it's commonly used for transmission windows, FTIR spectrophotometers and beam splitters for spectrophotometers. The KBr substrate and windows are soft and Hygroscopic. KBr single crystal uniform texture and transparent, has a high infrared transmittance, the transmittance greater than 90% when thickness less 10mm and in the range of 4000-500cm⁻¹, no impurity absorption. KCl single crystal as a laser window material, the optical performance is excellent.

APPLICATIONS

- Substrate for Epitaxial growth
- Be used in the production of infrared spectroscopy analyzer
- Ultraviolet and infrared optical components
- Prisms, lenses, filters and various laser windows, infrared devices, optical, laser crystal instruments

FEATURES

- Wide-band good conductor
- Water-soluble, easy to deliquesce and cannot be chemically polished
- Can grow epitaxial films on a featureless substrate
- Good resistance to mechanical shock



PARAMETERS

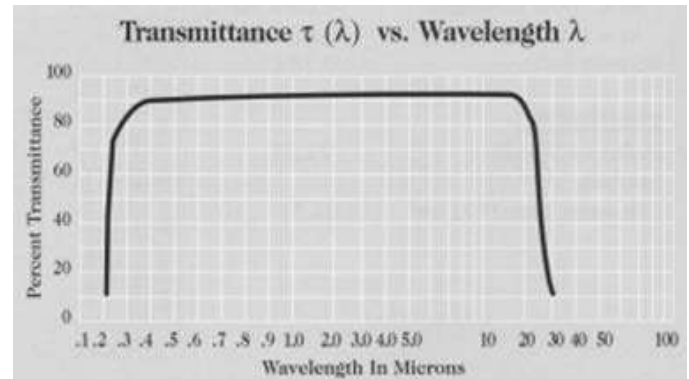
Material and Specifications

Orientation	<100>, <110>, <111>
Orientation Tolerance	< 0.5°
Parallelism	5"
Perpendicularity	3'
Surface Quality	10-5 (Scratch/Dig)
Wavefront Distortion	<λ/4@632 nm
Surface Flatness	<λ/8 @632 nm
Clear Aperture	>90%
Chamfer	<0.1×45°
Thickness/Diameter Tolerance	±0.05 mm

Physical and Chemical Properties

Crystal Structure	Cubic
Symmetry Class	m3m
Lattice Constants	6.598
Specific Mass	2.75 g/cm ³
Melting Point	728°C
Cleavability	(100), perfect
Thermal Conductivity (W·m ⁻¹ ·K ⁻¹ @46°C)	4.81
Specific Heat (J·kg ⁻¹ ·K ⁻¹)	452.2
Thermal Expansion (10 ⁻⁶ ·K ⁻¹ @60°C)	36.6 ...39.6
Hardness (Mohs)	1.5
Vickers Microhardness(GPa)	0.1
Constant of Elastic Compliance (10 ⁻¹² ·Pa ⁻¹)	S ₁₁ =30.29, S ₁₂ =-4.18, S ₄₄ =194.92
Young Modulus (GPa)	33.0@<100>, 13.8@<111>
Shear Modulus (GPa)	9.0@<100>, 5.1@<111>

Spectrum



Optical Characteristics

Transmission Range	0.21 ... 28.0μm
Refractive Index	1.5251@10.6μm
Thermo-optic Coefficient (10 ⁻⁶ ·K ⁻¹ @60°C, 3.4μm)	-0.395 ... -0.429
Poisson Ratio	0.138

Index of Refraction

λ(μm)	n	λ(μm)	n	λ(μm)	n
0.2	2.0995	5	1.5334	11	1.5217
0.5	1.57	6	1.5319	12	1.5204
1	1.5444	7	1.5303	15	1.4403
2	1.5383	8	1.5285	20	1.3822
3	1.5357	9	1.5265	30	1.0912
4	1.5346	10	1.5242		

