

# KOLMAR TECHNOLOGIES

## Series KISD InSb Photodiodes

### Features

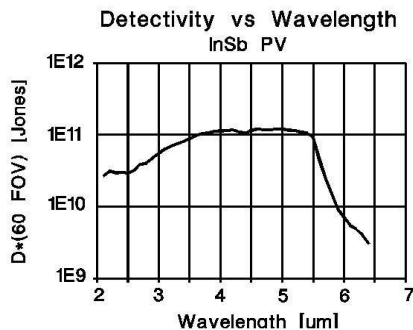
- **With or without integral amplifiers**
- **Fast rise times: 25 ns, 7 ns**
- **Linear response with power**
- **High detectivity**
- **Custom configurations available**

### Applications

The KISD series detectors are designed to be used in systems and instruments which require a very sensitive, fast, MWIR infrared detector.

- **Laser radar**
- **Range finders**
- **Trace gas spectroscopy**
- **IR DIAL**
- **Chemical aerosols detection**

### Spectral Response



### Description

The KISD detectors are indium antimonide (InSb) photodiodes available with or without integral high frequency amplifiers. Detector sizes are 0.5 mm, 1.0 mm, and 2.0 mm. The standard package is a side-looking Dewar with SMA connectors and a sapphire window.

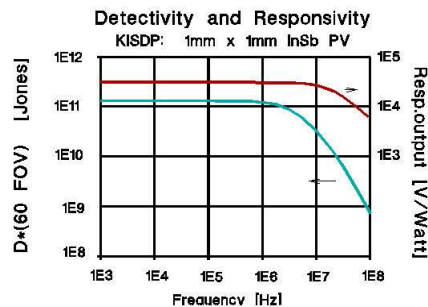
### KISD (without amplifiers)

KISD photodiodes are designed for moderate electrical bandwidth with maximum detectivity. The bandwidth is limited only by detector size, which determines RC time constant. A 1.0 mm size detector has 25 ns rise time. Peak responsivity is greater than 2 Amp/Watt and  $D^*(\text{peak}, 10\text{kHz}, 60\text{FOV})$  is greater than  $1 \times 10^{11}$  Jones.

### KISDP (with amplifiers)

The photodiode is integrated with high frequency (DC to 20 MHz) amplifiers.

### Frequency Response (KISDP)



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## Series KISD:InSb Photodiodes with or without Integral Amplifiers

### Series Configurations

Model*	Size (mm)	Bandwidth (Hz)		D* (60FOV) (Jones, typ)	Responsivity
		AC	DC		
KISD-1-A-6	1 x 1			1E11	>2 A/W
KISD -2-A-6	2 x 2			1E11	>2 A/W
KISD-0.5-A-6	0.5 x 0.5			1E11	>2 A/W
KISDP-1-J1/AC	1 x 1	100-15M		1E11	>2 x 10 <sup>4</sup> V/W
KISDP-1-J1/DC	1 x 1		15M	1E11	>2 x 10 <sup>4</sup> V/W
KISDP-1-J2	1 x 1	100-15M	15M	1E11	>2 x 10 <sup>4</sup> V/W
KISDP-1-LJ2	1 x 1	100-15M	15M	1E11	>2 x 10 <sup>4</sup> V/W

\*Key: model-size-package-window

### Options

Various cryogenic packages

- hold times up to 24 hours

Temperature sensor

Windows

- sapphire
- Ge ARC

Cold-filters

- narrow band
- low pass
- high pass

Cold stops

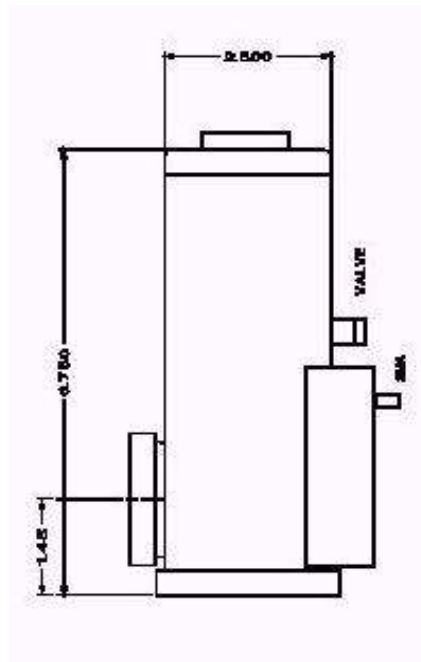
- 15°, 30°, 45°, 60°

Pixel sizes 2.0 mm to 0.5 mm

Matched amplifiers with fixed or adjustable gain

Automatic On/Off: J2 models

### Standard Dewar Configuration (KISDP)



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