

# KOLMAR TECHNOLOGIES

## Series KV104 HgCdTe Photodiodes

### Features

High  $D^*$  at high frequencies  
Sizes 2.0 mm to 0.05 mm  
Wavelength cutoff: 11.5, 8, 4.5  $\mu\text{m}$   
Linear  
Custom configurations available

### Applications

The KV104 is designed to be used in systems and instruments which require a very sensitive, high speed detector:

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

### Description

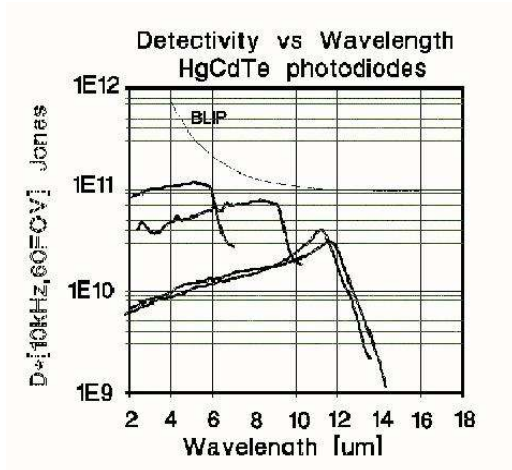
Series KV104 HgCdTe photodiodes are designed for wide electrical bandwidth applications. The maximum bandwidth is limited only by detector size, which determines RC time constant. A 100  $\mu\text{m}$  pixel size detector is capable of 100MHz bandwidth operation or greater.

The spectral response characteristics are determined by the HgCdTe bandgap selected. Standard ranges are 2-12  $\mu\text{m}$ , 2 - 8  $\mu\text{m}$  and 2 - 4.5  $\mu\text{m}$ .

The responsivity at 11 $\mu\text{m}$  is greater than 4 Amp/Watt and  $D^*$  (peak, 10kHz, 60FOV) is greater than  $3 \times 10^{10}$  Jones.

The standard package is a side-looking  $\text{LN}_2$  pour-filled Dewar with an AR coated ZnSe window and 8 hour hold time.

### Spectral Response



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## Series KV104: HgCdTe Photodiodes

### Series Configurations

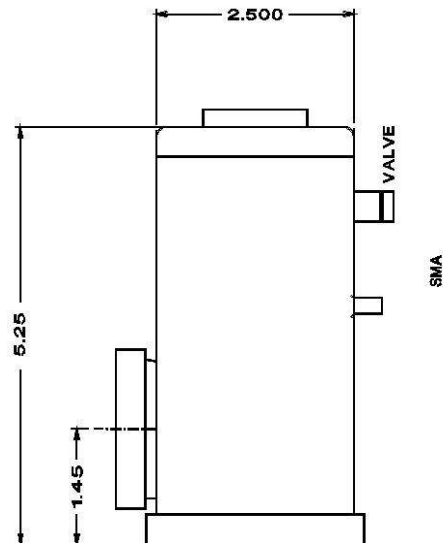
Model*	Wavelength ( $\mu\text{m}$ )		Size (mm)	Bandwidth (Hz)	D*(60FOV) (Jones,typ)	Responsivity (Amps/Watt)
	Peak	Cutoff				
KV104-1-A-3/11	10.5	>11.5	1 x 1	>20M	3E10	>4
KV104-1-A-3/12	11	>12.3	1 x 1	>20M	3E10	>4
KV104-1-A-3/10	9	>10	1 x 1	>20M	5E10	>4
KV104-0.5-A-3/11	10.5	>11.5	0.5 x 0.5	>50M	3E10	>4
KV104-0.25-A-1/11	10.5	>11.5	0.25x0.25	>100M	3E10	>4
KV104-0.1-1-E/11	10.5	>11.5	0.1 x 0.1	>500M	3E10	>4
KV104-0.5-A-2/8	7.2	>8	0.5 x 0.5	>30M	7E10	>3
KV104-1-A-7/11/TS	10.5	>11.5	1 x 1	>20M	3E10	>4
KV104-1-A-5/11/TS	10.5	>11.5	1 x 1	>20M	3E10	>4

\*Key: model-size-package-window/wavelength/options

### Options

- Various cryogenic packages
  - hold times up to 24 hours
- Temperature sensor
- Windows
  - ZnSe
  - ZnSe wedge
  - Ge
- Coatings
  - 10.6  $\mu\text{m}$
  - 2  $\mu\text{m}$  –13  $\mu\text{m}$
- Cold-filters
- Cold stops
  - 60°, 45°, 30°
- Pixel sizes 2.0 mm to 0.05 mm
- Matched amplifiers available

### Standard Dewar Configuration



### Custom Configurations on Request