

KOLMAR TECHNOLOGIES

Model KV104 MCT Photodiode Series

Description

Model KV104 series is wide electrical bandwidth infrared detector sensor with cutoff wavelength greater than 11 μm . The MCT photovoltaic detector covers the spectral range from 2 μm to 11.5 μm . There are several external transimpedance amplifiers (DC or AC coupled) with matched bias circuits. The maximum detector size is 1 mm x 1 mm. The $D^*(\text{peak}, 10\text{kHz})$ is greater than 4×10^{10} Jones. The side looking LN2 pour filled dewar has a 8 hour hold time.

Options include AR coated windows for 2 to 12 μm or 10.6 μm , and element sizes as small as 0.1 mm. Other cutoff wavelengths (8 μm and 4.5 μm) are also available.

The KV104 is designed for applications where photoconductive MCT detector capabilities are not enough. These are applications which require bandwidth greater than 1 MHz or greater linear dynamic range with photon flux and responsivity independent of detector bias.

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Applications

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

- Laser Radar
- Range Finders
- Trace gas spectroscopy
- IR DIAL
- FTIR
- TRS
- Chemical aerosols detection

Performance Specifications

MODEL KV104 SERIES

Size(mm x mm)	1.0, 0.5, 0.25, 0.2, 0.15, 0.1
Quantum Efficiency	>50 %
Wavelength cutoff	>11 μm
Bandwidth (<=0.25mm size)	DC to 70 MHz
FOV	60 degrees full
$D^*(50\text{kHz})$	> 4×10^{10} Jones
Responsivity (output)	> 4 A/W