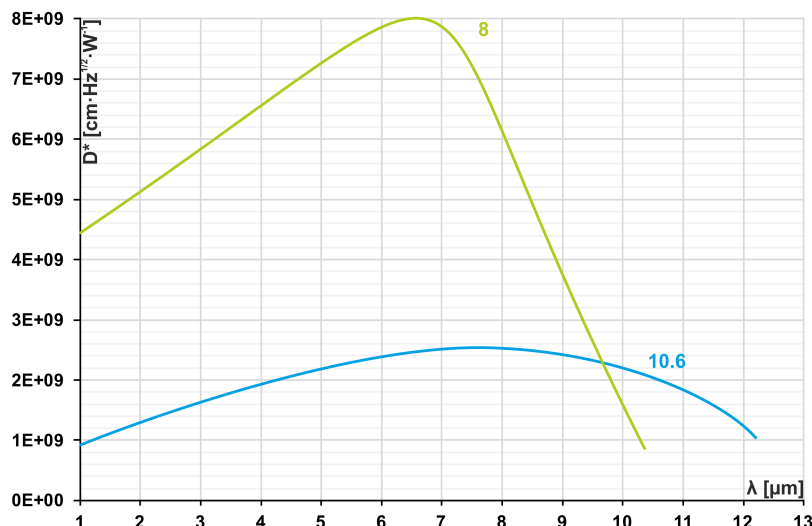
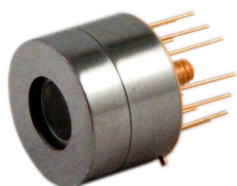


## PVMI-4TE Series

# 8 – 11 μm IR PHOTOVOLTAIC MULTIPLE JUNCTION DETECTORS THERMOELECTRICALLY COOLED OPTICALLY IMMERSED



Example of  $D^*$  vs Wavelength  $\lambda$  for PVMI-4TE Series HgCdTe Detectors. Spectral Characteristics of individual detectors may vary from those shown on the chart.

### Features

- High performance in the long wavelengths range without LN cooling
- Fast response
- No flicker noise
- Convenient to use
- Wide dynamic range
- Compact, rugged and reliable
- Low cost
- Prompt delivery
- Custom design upon request

### Description

The **PVMI-4TE- $\lambda_{opt}$**  photodetectors series ( $\lambda_{opt}$  - optimal wavelength in micrometers) feature IR multiple junction optically immersed photovoltaic detectors on four-stage thermoelectrical cooler.

The devices are optimized for the maximum performance at  $\lambda_{opt}$ . Highest performance and stability are achieved by application of variable gap **HgCdTe** semiconductor, optimized doping and sophisticated surface processing. Custom devices with quadrant cells, multielement arrays, different windows, lenses and optical filters are available upon request.

Standard detectors are available in **TO8** packages with wedged **BaF<sub>2</sub>** windows. Other packages, windows and connectors are available upon request.

### IR Detector Specification @20°C

Parameter	Symbol	Unit	PVMI-4TE-8	PVMI-4TE-10.6
Optimal Wavelength	$\lambda_{opt}$	$\mu\text{m}$	8	10.6
Detectivity <sup>1)</sup> :				
@ $\lambda_{peak}$	$D^*$	$\frac{\text{cm} \cdot \sqrt{\text{Hz}}}{\text{W}}$	$\geq 8.0 \times 10^9$	$\geq 2.5 \times 10^9$
@ $\lambda_{opt}$			$\geq 6.0 \times 10^9$	$\geq 2.0 \times 10^9$
Current Responsivity - Width Product @ $\lambda_{opt}$ 1x1mm	$R_l \cdot w$	$\frac{\text{A} \cdot \text{mm}}{\text{W}}$	$\geq 0.20$	$\geq 0.15$
Time Constant	$\tau$	ns	$\leq 4$	$\leq 3$
Resistance	R	$\Omega$	500 to 1200	150 to 500
Operating Temperature	T	K	~195	
Acceptance Angle, F/#	$\Phi, -$	deg, -	36, 1.62	

<sup>1)</sup> Data Sheet states minimum guaranteed  $D^*$  values for each detector model. Higher performance detectors can be provided upon request.

Type	Optical Area [mm×mm]									
	0.025×0.025	0.05×0.05	0.1×0.1	0.2×0.2	0.25×0.25	0.5×0.5	1×1	2×2	3×3	4×4
PVMI-4TE-8					O	O	X	X		
PVMI-4TE-10.6					O	O	X	X		

X – standard detectors

O – detectors available upon request, parameters may vary from these in Data Sheet