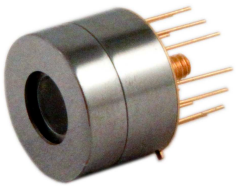
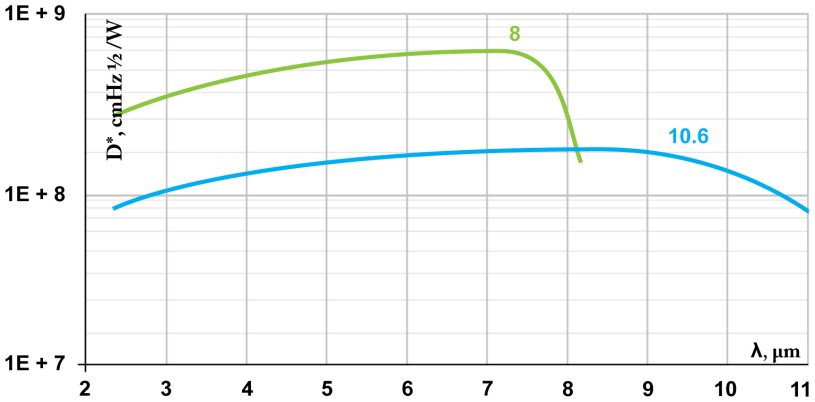
PVM-2TE Series

8 – 11 µm IR PHOTOVOLTAIC MULTIPLE JUNCTION DETECTORS THERMOELECTRICALLY COOLED





Example of D vs Wavelength λ for PVM-2TE Series HgCdTe Detectors. Spectral Characteristics of individual detectors may vary from those shown on the chart.*

Features

- High performance in the 8 to 11 µm spectral range
- 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 **PVM-2TE-λ_{opt}** photodetectors series (λ_{opt} - optimal wavelength in micrometers) feature IR multiple junction photovoltaic detector on two-stage thermoelectrical cooler. The devices are optimized for the maximum performance at λ_{opt}, large area devices. 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_2** windows. Other packages, windows and connectors are also available.

IR Detector Specification @20°C

Parameter	Symbol	Unit	PVM-2TE-8	PVM-2TE-10.6
Optimal Wavelength	**λ_{opt}**	**µm**	8	10.6
Detectivity*): **@ λ_{peak}** **@ λ_{opt}**	**D***	**$\frac{cm\cdot\sqrt{Hz}}{W}$**	 $\geq 6.0\times10^8$ $\geq 3.0\times10^8$	 $\geq 2.0\times10^8$ $\geq 1.0\times10^8$
Current Responsivity - Width Product @λ_{opt} 1×1mm	**$R_i\cdot w$**	**$\frac{A\cdot mm}{W}$**	≥0.015	≥0.006
Time Constant	**τ**	**ns**	≤4	≤3
Resistance	**R**	**Ω**	150 to 600	100 to 350
Operating Temperature	**T**	**K**	~230	
Acceptance Angle, F/#	**Φ, -**	**deg, -**	70, 0.87	

*) *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
PVM-2TE-8	O	O	X	X	O	O	X	X	X	
PVM-2TE-10.6	O	O	X	X	O	O	X	X	X	

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

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