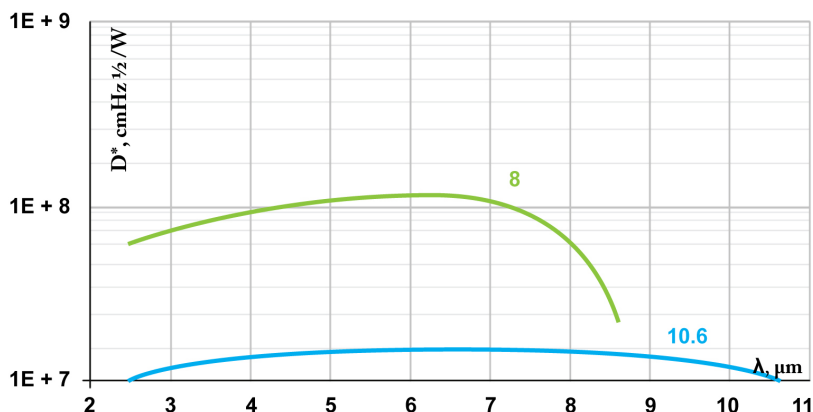


PVM Series

8 – 11 μm IR PHOTOVOLTAIC MULTIPLE JUNCTION DETECTORS



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

Features

- Ambient temperature operation
- No bias required
- Short time constant
- No flocker noise
- Operation from DC to VHF
- Perfect match to fast electronics
- Wide dynamic range
- Large area devices
- Low cost
- Prompt delivery
- Custom design upon request

Description

The **PVM- λ_{opt}** photodetectors series (λ_{opt} - optimal wavelength in micrometers) feature IR multiple junction photovoltaic detector.

The devices are optimized for the maximum performance at λ_{opt} . Highest performance and stability are achieved by application of variable gap **HgCdTe** semiconductor, optimized doping and sophisticated surface processing.

Standard detectors are available in **TO39** or **BNC** packages without windows. Various windows, other packages and connectors are available upon request.

IR Detector Specification @20°C

Parameter	Symbol	Unit	PVM-8	PVM-10.6
Optimal Wavelength	λ_{opt}	μm	8	10.6
Detectivity ¹⁾ :				
@ λ_{peak}	D^*	$\frac{\text{cm} \cdot \sqrt{\text{Hz}}}{\text{W}}$	$\geq 1.2 \times 10^8$	$\geq 2.0 \times 10^7$
@ λ_{opt}			$\geq 6.0 \times 10^7$	$\geq 1.0 \times 10^7$
Current Responsivity - Width Product @ λ_{opt} 1x1mm	R_{i-w}	$\frac{\text{A} \cdot \text{mm}}{\text{W}}$	≥ 0.008	≥ 0.002
Time Constant	τ	ns	≤ 4	≤ 1.5
Resistance	R	Ω	50 to 300	20 to 150
Operating Temperature	T	K		~300
Acceptance Angle, F/#	$\Phi, -$	deg, -		>90, 0.71

¹⁾ 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-8	O	O	X	X	O	O	X	X	X	X
PVM-10.6	O	O	X	X	O	O	X	X	X	X

X – standard detectors

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