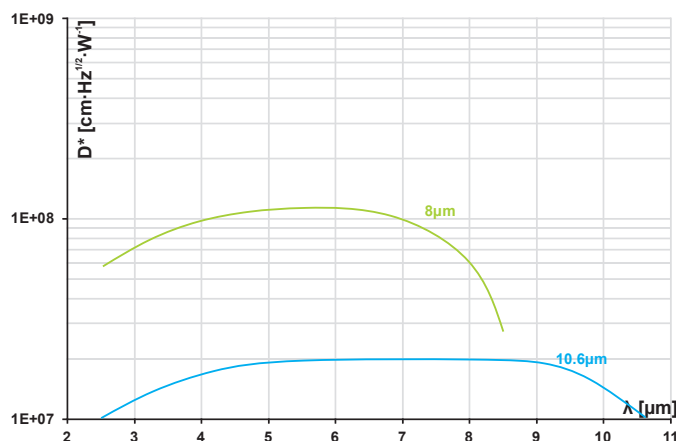


PVM

8-11 μm IR PHOTOVOLTAIC MULTIPLE JUNCTION DETECTORS

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

Detector code description



Example of D^* vs Wavelength λ for PC 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 flicker 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

IR Detector Specification @20°C

Detector type	Cooling, operating temperature T [K]	Optimal wavelength λ_{opt} [μm]	Detectivity ^{**)} $D^* \left[\frac{\text{cm} \cdot \sqrt{\text{Hz}}}{\text{W}} \right]$		Current responsivity length product @ λ_{opt} $R_i \cdot L \left[\frac{\text{A} \cdot \text{mm}}{\text{W}} \right]$	Time constant τ [μs]	Resistance R [Ω]	Acceptance angle $\varnothing \left[\frac{1}{1.2/\lambda} \right]$	Optical area ^{***)} [mm × mm]	Package	Window ^{****)}
			@ λ_{peak}	@ λ_{opt}							
PVM	uncooled, ~300	8	$\geq 1.2 \times 10^8$	$\geq 6.0 \times 10^7$	≥ 0.008	≤ 4	50 to 300	$\geq 90, 0.71$	0.1×0.1 0.2×0.2 1×1 2×2 3×3 4×4 ¹⁾	BNC, TO39	no window
		10.6	$\geq 2.0 \times 10^7$	$\geq 1.0 \times 10^7$	≥ 0.002	≤ 1.5	20 to 150				

^{*)} Other optimal wavelengths available upon request.

^{**) Data sheet states minimum guaranteed D^* values for each detector model. Higher performance detectors can be provided upon request.}

^{***)} Other optical areas available upon request.

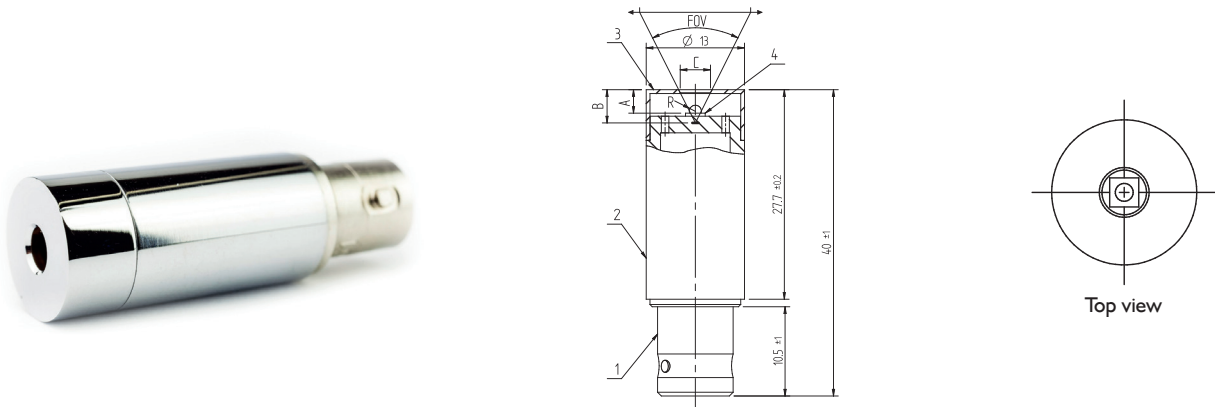
^{****)} Other windows available upon request.

¹⁾ Optical area available only for uncooled detectors

DETECTOR PACKAGES

Uncooled detectors are typically provided in packages (BNC, TO39) without windows. The exception is the specialized PEM package. Due to magnetic circuit incorporated into the package, a window is supplied to protect against pollution. There are two versions of packages dedicated for PEM detectors: PEM with SMA connector and PEM with TO8 base which allows to integrate detector with VIGO preamplifier.

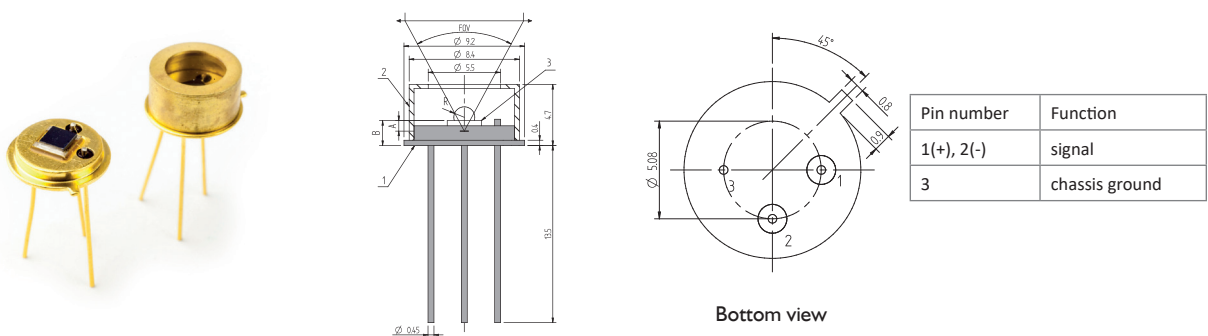
BNC detector package



Dimensions [mm]

Lens shape	Hyperhemisphere			Hemisphere	Flat
Optical area [mm x mm]	0.5×0.5	1×1	2×2	0.5×0.5 - 2×2	0.01×0.01 - 4×4
R [mm]	0.5	0.8	1.25	0.50 – 1.25	infinity
A [mm]	4.6±0.3	5.5±0.3	6.8±0.3	3.1±0.3	1.6±0.3
B [mm]	3.10±0.15	3.10 ±0.15	3.10±0.15	3.10±0.15	1.60±0.15
FOV [°], Ø =4mm	~36	~36	~36	~66	~102
FOV [°], Ø =6mm	~36	~36	~36	~88	~124

TO39 detector package



Dimensions [mm]

Lens shape	Hyperhemisphere			Hemisphere	Flat
Optical area [mm x mm]	0.5×0.5	1×1	2×2	0.5×0.5 - 2×2	0.01×0.01 - 4×4
R [mm]	0.5	0.8	1.25	0.5 - 1.6	infinity
A [mm]	1.5±0.2	2.4±0.2	3.75±0.20	0	0
B [mm]	1.9±0.2	1.9±0.2	1.9±0.2	1.9±0.2	1.9±0.3
FOV [°]	~36	~36	~36	~90	~90