# PVM series

2 – 13 µm HgCdTe ambient temperature photovoltaic multiple junction detectors

PVM series features uncooled IR photovoltaic multiple junction detectors based on sophisticated HgCdTe heterostructures for the best performance and stability. The detectors are optimized for the maximum performance at λ_{opt}. They are especially useful as large active area detectors operating within 2 to 13 µm spectral range.

Spectral response (T_a = 20°C)
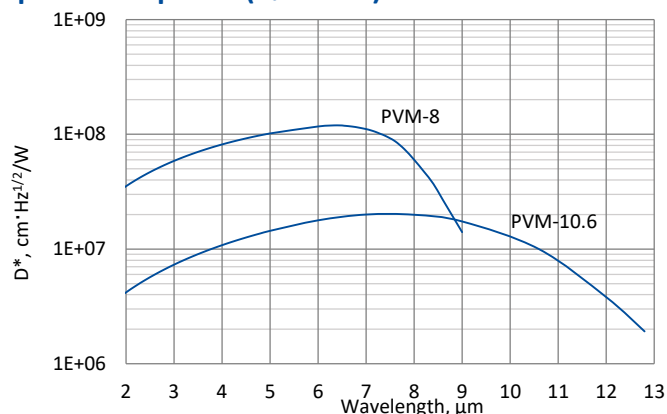
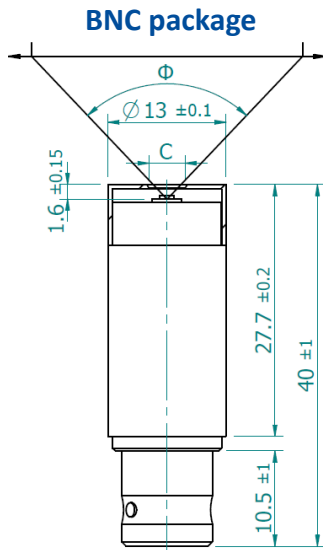Exemplary spectral detectivity, the spectral response of delivered devices may differ.

Specification (T_a = 20°C)

Parameter	Detector type			
	PVM-8		PVM-10.6	
Active element material	epitaxial HgCdTe heterostructure			
Optimal wavelength λ_{opt}, µm	8.0		10.6	
Detectivity $D^*(\lambda_{peak})$, cm·Hz$^{1/2}$/W	≥1.2×10^8		≥2.0×10^7	
Detectivity $D^*(\lambda_{opt})$, cm·Hz$^{1/2}$/W	≥6.0×10^7		≥1.0×10^7	
Current responsivity-active area length product $R_i(\lambda_{opt})$·L, A·mm/W	≥0.008		≥0.002	
Time constant τ, ns	≤4		≤1.5	
Resistance R, Ω	50 to 300		20 to 150	
Active area A, mm×mm	1×1, 2×2, 3×3, 4×4			
Package	TO39	BNC	TO39	BNC
Acceptance angle Φ	~90°	~102°*), ~124°**)	~90°	~102°*), ~124°**)
Window	none			

*) Aperture C = Ø4 mm.
**) Aperture C = Ø6 mm.

Mechanical layout, mm

BNC package

Parameter	Value	
Active area, mm×mm	1×1, 2×2	3×3, 4×4
C, mm	Ø4	Ø6
Acceptance angle Φ	~102°	~124°

C - aperture

Top view

Bottom view
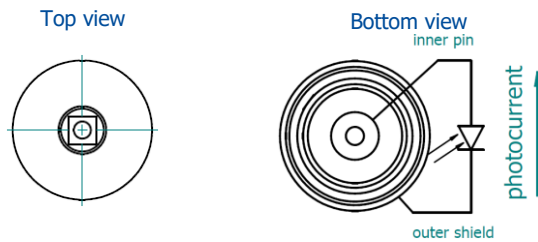
TO39 package
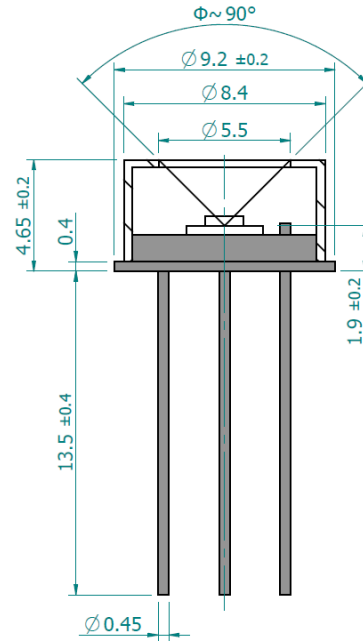
Φ – acceptance angle

Bottom view
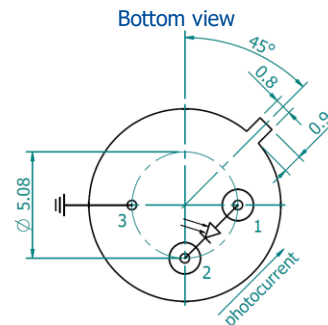
Function	Pin number
Detector	1, 2
Chassis ground	3

Dedicated preamplifier

small SIP-TO39