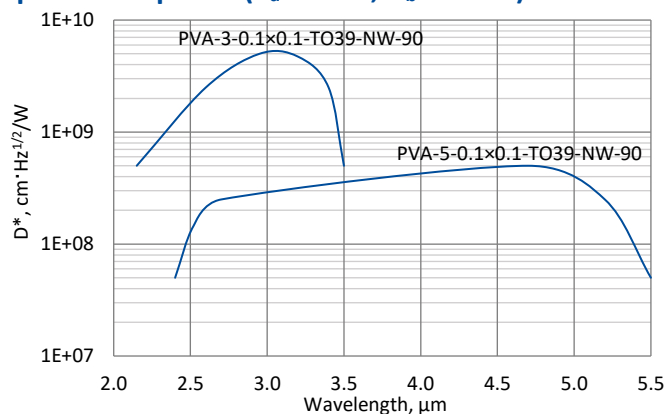


PVA series

2.4 – 5.3 μm InAs and InAsSb ambient temperature photovoltaic detectors

PVA series features uncooled IR photovoltaic detectors based on $\text{InAs}_{1-x}\text{Sb}_x$ alloys. They do not contain mercury or cadmium and are complying with the RoHS Directive.

Spectral response ($T_a = 20^\circ\text{C}$, $V_b = 0\text{ mV}$)

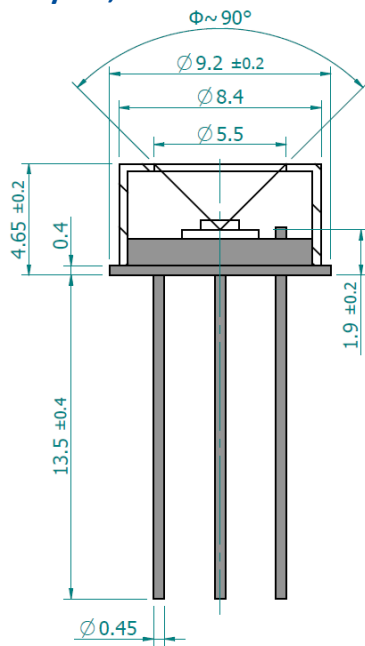


Exemplary spectral detectivity, the spectral response of delivered devices may differ.

Specification ($T_a = 20^\circ\text{C}$, $V_b = 0\text{ mV}$)

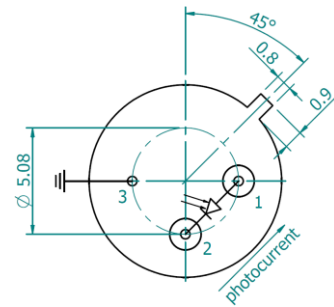
Parameter	Detector type	
	PVA-3-0.1×0.1-TO39-NW-90	PVA-5-0.1×0.1-TO39-NW-90
Active element material	epitaxial InAs heterostructure	epitaxial InAsSb heterostructure
Cut-on wavelength $\lambda_{\text{cut-on}}$ (10%), μm	≤ 2.4	≤ 2.6
Peak wavelength λ_{peak} , μm	2.9 ± 0.3	4.5 ± 0.6
Cut-off wavelength $\lambda_{\text{cut-off}}$ (10%), μm	≥ 3.3	≥ 5.3
Detectivity D^* (λ_{peak}), $\text{cm}\cdot\text{Hz}^{1/2}/\text{W}$	$\geq 5.0 \times 10^9$	$\geq 5.0 \times 10^8$
Current responsivity R_i (λ_{peak}), A/W	≥ 1.1	≥ 1.2
Time constant τ , ns	≤ 20	≤ 60
Resistance R , Ω	$\geq 2\text{k}$	≥ 70
Active area A , $\text{mm}\times\text{mm}$	0.1×0.1	
Package	TO39	
Acceptance angle Φ	$\sim 90^\circ$	
Window	none	

Mechanical layout, mm



Φ – acceptance angle

Bottom view



Function	Pin number
Detector	1, 2
Chassis ground	3

Dedicated preamplifier



small SIP-T039