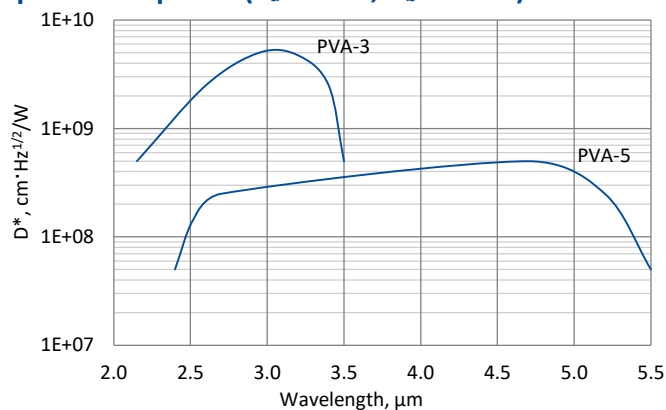


PVA series

2.0 – 5.5 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. The devices are temperature stable up to 300°C and mechanically durable. They do not contain mercury or cadmium and are complying with the RoHS Directive.

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

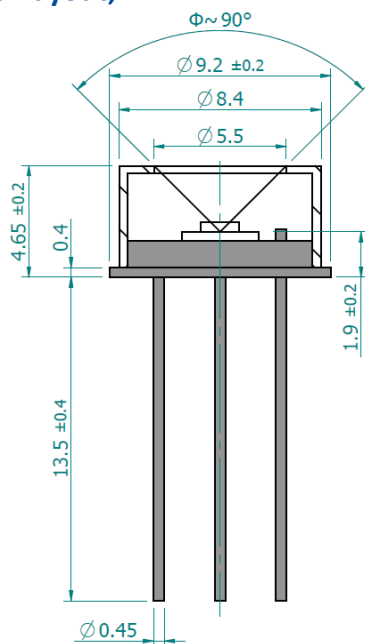


Exemplary spectral detectivity, the spectral response of delivered devices may differ.

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

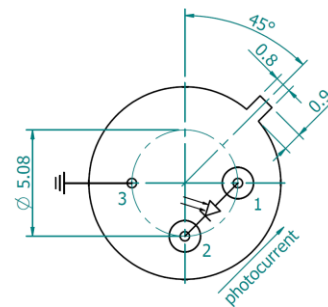
| Parameter | Detector type | |
|---|--------------------------------|----------------------------------|
| | PVA-3 | PVA-5 |
| Active element material | epitaxial InAs heterostructure | epitaxial InAsSb heterostructure |
| Cut-on wavelength $\lambda_{\text{cut-on}}$ (10%), μm | 2.15 ± 0.20 | 2.3 ± 0.2 |
| Peak wavelength λ_{peak} , μm | 2.95 ± 0.30 | 4.7 ± 0.3 |
| Cut-off wavelength $\lambda_{\text{cut-off}}$ (10%), μm | 3.5 ± 0.2 | 5.5 ± 0.2 |
| Detectivity $D^*(\lambda_{\text{peak}})$, $\text{cm}\cdot\text{Hz}^{1/2}/\text{W}$ | $\geq 5.0 \times 10^9$ | $\geq 5.0 \times 10^8$ |
| Current responsivity $R_i(\lambda_{\text{peak}})$, A/W | ≥ 1.3 | ≥ 1.3 |
| 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