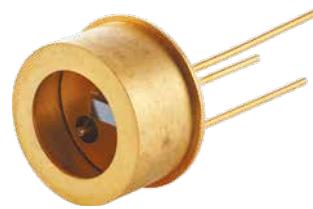
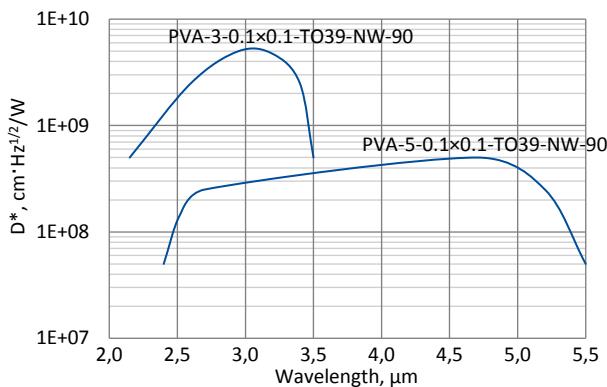


2.25 PVA series

2.25.1 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. They do not contain mercury or cadmium and are complying with the RoHS Directive.

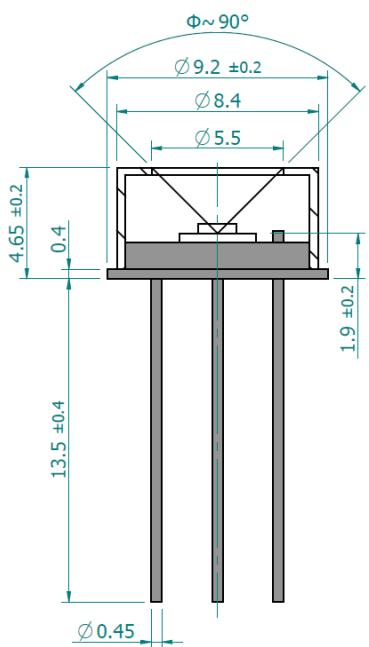
Spectral response ($T_a = 20^\circ\text{C}$, $V_b = 0 \text{ mV}$)



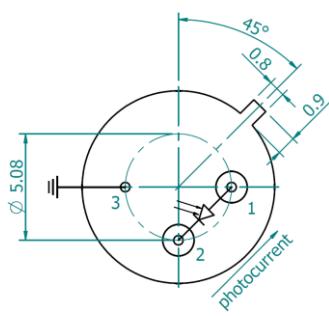
Exemplary spectral detectivity, the spectral response of delivered devices may differ.

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

| Parameter | Detector type | |
|---|--------------------------------|----------------------------------|
| | PVA-3-0.1x0.1-T039-NW-90 | PVA-5-0.1x0.1-T039-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}), $\text{cm} \cdot \text{Hz}^{1/2}/\text{W}$ | ≥5.0×10 ⁹ | ≥5.0×10 ⁸ |
| Current responsivity $R_i(\lambda_{\text{peak}})$, A/W | ≥1.1 | ≥1.2 |
| Time constant τ , ns | ≤20 | ≤60 |
| Resistance R , Ω | ≥2k | ≥70 |
| Active area A, mm×mm | 0.1×0.1 | |
| Package | TO39 | |
| Acceptance angle Φ | ~90° | |
| Window | none | |

Mechanical layout, mm

Bottom view



| Function | Pin number |
|----------------|------------|
| Detector | 1, 2 |
| Chassis ground | 3 |

Dedicated preamplifier

small SIP-T039