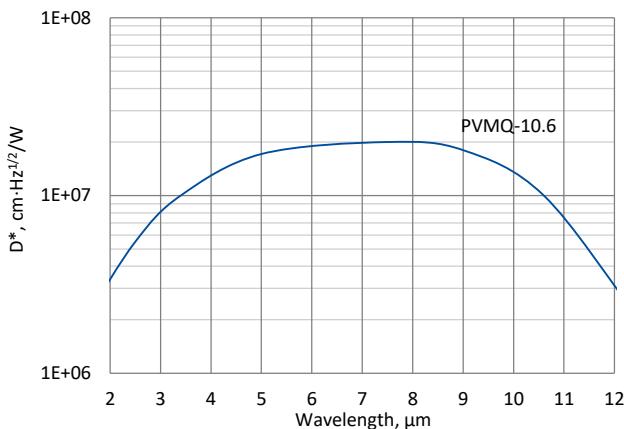


2.30 PVMQ

2.30.1 2.0 – 12.0 μm HgCdTe ambient temperature photovoltaic multiple junction quadrant detector

PVMQ is uncooled IR photovoltaic multiple junction quadrant detector based on sophisticated HgCdTe heterostructures for the best performance and stability. Quadrant detector consists of four separate active elements arranged in a quadrant geometry. The device is optimized for the maximum performance at 10.6 μm . The main application of PVMQ detector is laser beam profiling and positioning.

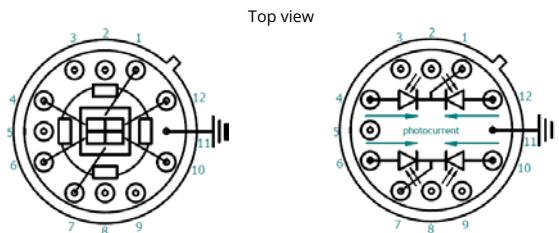
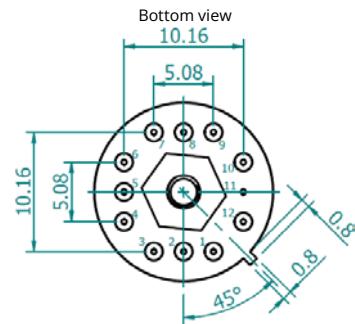
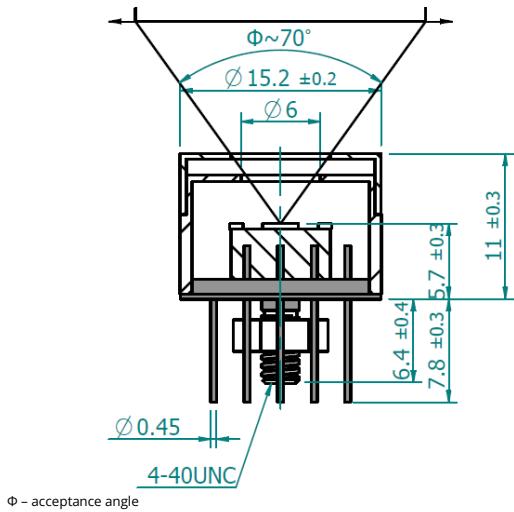
Spectral response ($T_a = 20^\circ\text{C}$)



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

Specification ($T_a = 20^\circ\text{C}$)

| Parameter | Detector type |
|---|----------------------------------|
| | PVMQ-10.6 |
| Active elements material | epitaxial HgCdTe heterostructure |
| Optimum wavelength λ_{opt} , μm | 10.6 |
| Detectivity $D^*(\lambda_{\text{peak}})$, $\text{cm} \cdot \text{Hz}^{1/2} / \text{W}$ | $\geq 2.0 \times 10^7$ |
| Detectivity $D^*(\lambda_{\text{opt}})$, $\text{cm} \cdot \text{Hz}^{1/2} / \text{W}$ | $\geq 1.0 \times 10^7$ |
| Current responsivity $R_i(\lambda_{\text{opt}})$, A/W | ≥ 0.002 |
| Time constant τ , ns | ≤ 1.5 |
| Resistance R , Ω | 30 to 150 |
| Active area of single element A, $\text{mm} \times \text{mm}$ | 1x1 |
| Distance between elements, μm | 200 |
| Package | TO8 |
| Acceptance angle Φ | $\sim 70^\circ$ |
| Window | none |

Mechanical layout, mm


| Function | Pin number |
|----------------|---------------|
| Detector 1 | 12 |
| Detector 2 | 10 |
| Detector 3 | 6 |
| Detector 4 | 4 |
| Common | 1, 7 |
| Chassis ground | 11 |
| Not used | 2, 3, 5, 8, 9 |