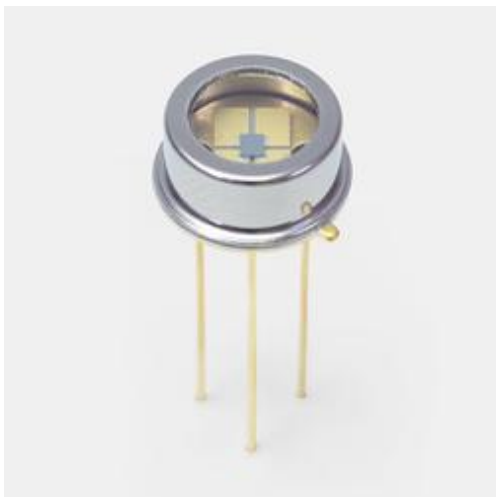


An RoHS-compliant InAsSb detector offering greater stability than comparable PbSe detectors ^[1]

Large 1 × 1 mm active area and high sensitivity for gas analysis and remote temperature measurement.

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P17442-011MS InAsSb photovoltaic detector
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Hamamatsu Photonics introduces the [P17442-011MS](#) InAsSb photovoltaic detector for mid-infrared measurement. Combining high sensitivity, high linearity and greater stability, it provides a RoHS-compliant alternative to traditional PbSe detectors for mid-infrared detection. Its large 1 × 1 mm active area collects more light to increase the output signal, while a typical rise time of 15 ns supports fast mid-infrared measurement without cooling.

Detector benefits

The key specifications and their supported benefits include:

- **Photosensitive area:** The 1 × 1 mm active area, larger than that of the previous P16112 and P16612 series.
- **Spectral performance:** A typical peak sensitivity wavelength of 4.1 μm and typical cutoff wavelength of 5.3 μm provide mid-infrared detection up to the 5 μm band.
- **Sensitivity:** Typical photosensitivity of 65 mA/W and detectivity of $1.0 \times 10^9 \text{ cm} \cdot \text{Hz}^{1/2}/\text{W}$ support measurements needing high sensitivity detection.
- **Response:** A typical rise time of 15 ns supports rapid measurements and fast signal modulation.
- **Optical design:** A sapphire window and 100° field of view define the optical interface, while the back-illuminated structure improves temperature sensitivity.

- **Operation and package:** The non-cooled detector uses a high-reliability TO-5 metal package and has an operating temperature range of -40 to $+85$ °C.
- **Environmentally friendly:** RoHS compliance, with lead-, mercury- and cadmium-free construction, supports integration into products requiring restricted-substance compliance.

This new detector represents Hamamatsu's commitment to continuously improve its product offerings to meet evolving needs of optical system designers and integrators.

Target Applications

- Gas measurement
- Remote temperature measurement

For full technical details, visit the [P17442-011MS](#) product details and datasheet.

References

[1] Hamamatsu Photonics, "InAsSb MWIR detectors," 2026. [Online]. Available: https://www.hamamatsu.com/eu/en/news/featured-products_and_technologies/2026/inassb-mwir-detectors.html. [Accessed: Oct. 22, 2026].