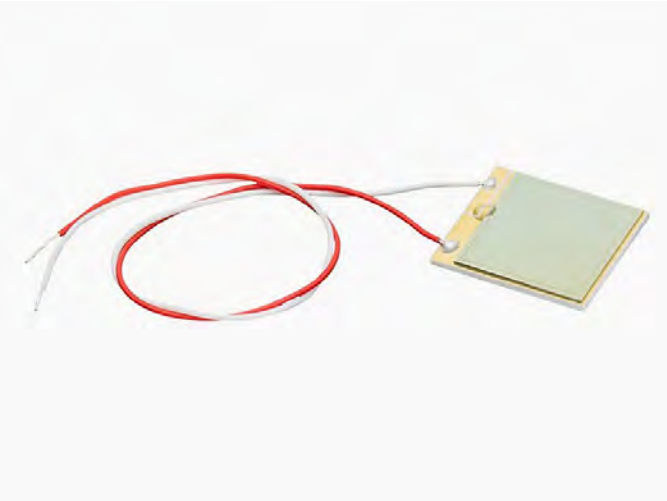
10 mm x 10 mm Ge Photodiode



Description:

Germanium photodiodes are commonly used to measure optical power in the NIR range, especially in cost-sensitive applications or where a large-area detector is needed. However, germanium detectors have a lower shunt resistance and higher dark current than similarly-sized InGaAs detectors, resulting in higher noise levels overall. Therefore, germanium detectors are well suited for applications where the signal being detected is much higher than the noise floor. GPD Optoelectronics offers an"HS" series of germanium photodiodes which have higher-than-typical shunt resistance for improved performance.

Features:

- Chip diameters from 1 mm to 25 mm
- Spectral response from 800 nm to 1800 nm
- High linearity > 10 dBm
- Multiple window and lens options
- Optical filters available (neutral density, bandpass, etc.)
- Thermoelectric cooling options
- Wide packaging variety: TO packages, BNC options, chip on ceramic submount, and more

Applications:

- Optical power meters
- LED/LD characterization and burn-in diagnostics
- Spectroscopy
- LED/LD characterization
- Eye-safe laser detection sensors

Specifications:

Specificationsa	
Sensor Material	Ge
Wavelength Range	800 - 1800 nm
Peak Wavelength	1550 nm (Typ.)
Responsivityb	0.95 A/W (Typ.)
Active Area	100 mm^2 (10 mm x 10 mm)
Rise/Fall Time (RL = 50 Ohms, 1 V)	10 µs (Typ.)
NEP (1550 nm)	4.0 x 10^{-12} $W/Hz^{1/2}$ (Typ.)
Dark Current (0.3 V)	50 µA (Max)
Capacitance	80 nF (Typ.) @ 1 V; 135 nF (Typ.) @ 0 V
Shunt Resistance	2000 Ohm (Typ.)
Package	Ceramic

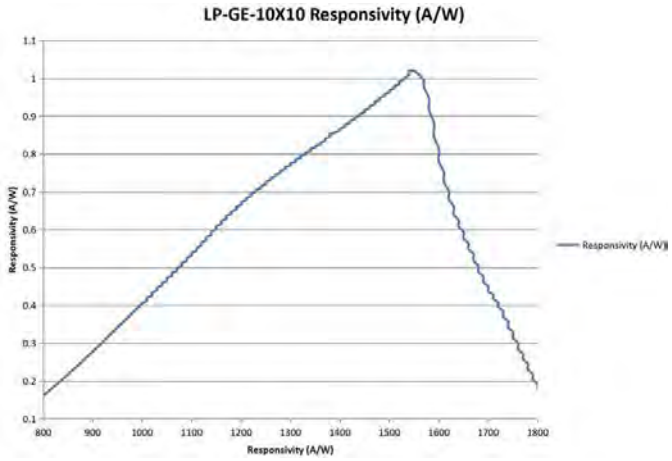
Max Ratings	
Max Bias (Reverse) Voltage	1 V
Reverse Current	10 mA
Operating Temperature	-40 to 85 °C
Storage Temperature	-40 to 125 °C

Note: Unless otherwise noted, all measurements are performed at 25 °C ambient temperature.

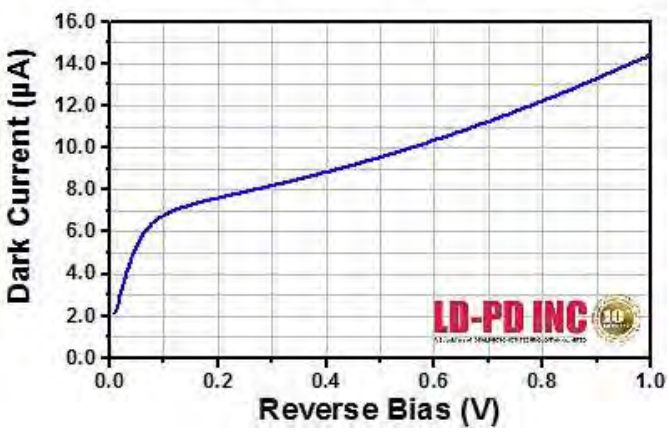
Responsivity Specified at the Peak Wavelength

NEP is Specified for the Photovoltaic Mode

Responsivity Spectrum:



Dark Current:



This is a sample curve of the dark current. Actual performance will vary from photodiode to photodiode. Do not exceed the 1 V maximum reverse bias voltage.

Dimension:

