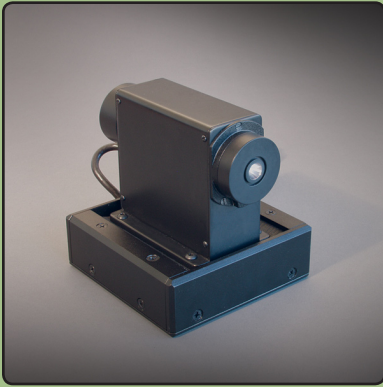


THz DETECTORS – GOLAY CELLS



Product description:

The Golay Cell is an opto-acoustic detector designed for operation in the spectral range 0.02-20 THz. It is equipped with a 8 mm diameter polyethylene input window that provides for high transparency at frequencies up to 20 THz. The Golay Cell includes a build-in preamplifier. Operation of a Golay Cell requires a three-unit power supply delivering the following: +15 V, -15 V and 32 mA. These power supplies are also available as an option. Performance of Golay Cells is detrimentally affected by mechanical vibrations. To address this problem, our Golay Cells are mounted on proprietary vibration-isolating bases.

Technical Specifications:

PARAMETER	VALUE
Responsivity at 12.5 Hz modulation	$10^4 - 10^5$ V/W
Sensitivity at 12.5 Hz modulation	10^{-8} W/H ^{1/2}
Maximum modulation frequency	50 Hz
Dynamic range	100 nW - 1 mW
Rise time	25 ms
Maximum output voltage	3.0 V
Input window diameter	6 mm
Dimensions	135 x 115 x 120 mm

Operating Conditions:

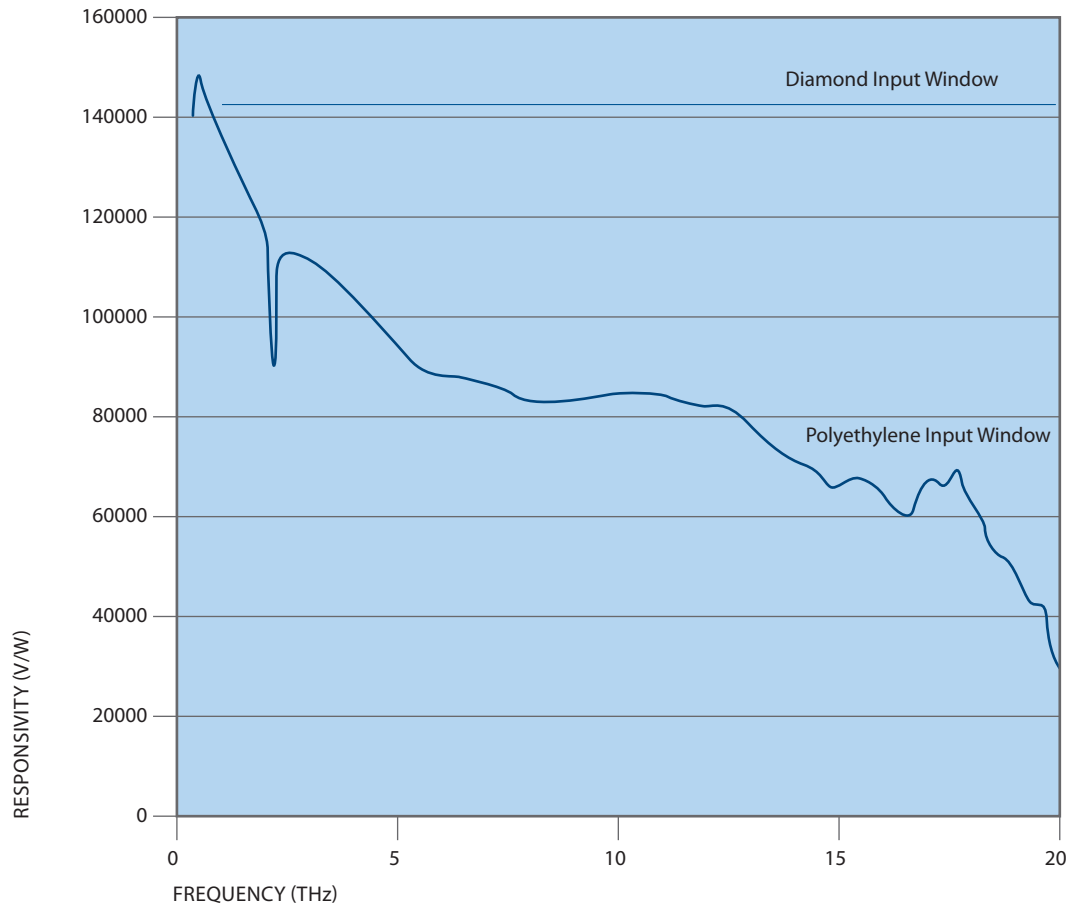
PARAMETER	VALUE
Value Temperature	+15 to +25 °C
Pressure	8.4×10^4 to 10.7×10^4 Pa
Humidity	0 -80 %

Application Notes:

The Golay Cell can be used to detect both CW and pulsed THz radiation. However, due to a 25 ms response time, only average power can be measured for short pulse/high repetition rate THz sources.

Spectral response is lowered by transmission characteristics of the input window.

Golay Cell Responsivity Spectrum



NOTES:

- Golay Cell responsivity was measured for a unit with 2 mm thick polyethylene input window at modulation frequency of 12.5 Hz.

Pricing information is available on request at sales@mtinstruments.com

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