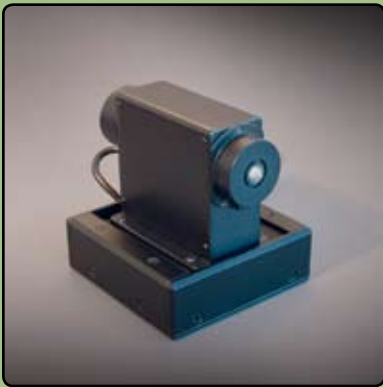


THz DETECTORS – GOLAY CELLS



Product description:

Golay Cell is an opto-acoustic detector designed for operation in the spectral range 0.02-20 THz. It is equipped with a 6 mm diameter polyethylene input window that provides for high transparency at frequencies up to 20 THz. Black polyethylene input windows are available as an option to cut off optical radiation. 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. Such a power supply is also available as an option. Performance of Golay Cells is detrimentally affected by mechanical vibrations. Addressing this problem, our Golay Cells are mounted on proprietary vibration-isolating bases.

Technical Specifications:

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

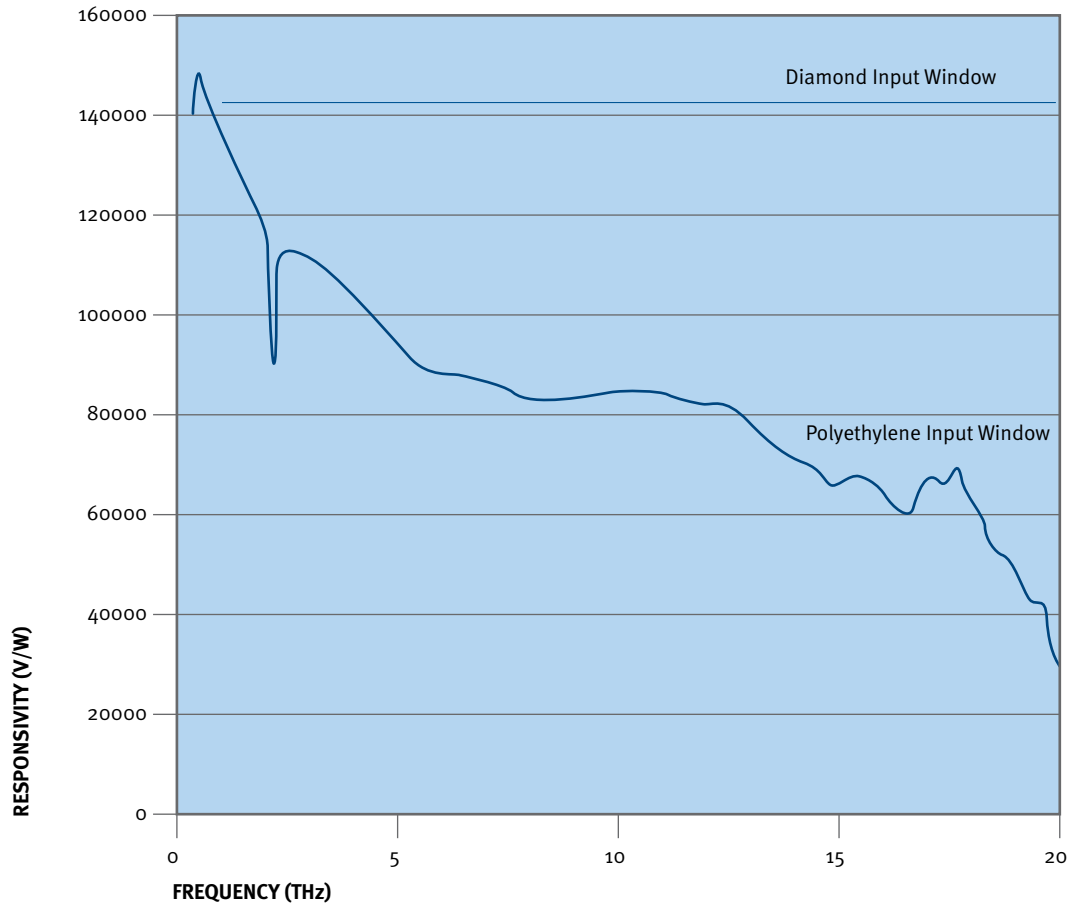
Operating Conditions:

PARAMETER	VALUE
Value Temperature, °C	+15 to +25
Pressure, Pa	8.4×10^4 to 10.7×10^4
Humidity, %	45 -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.

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