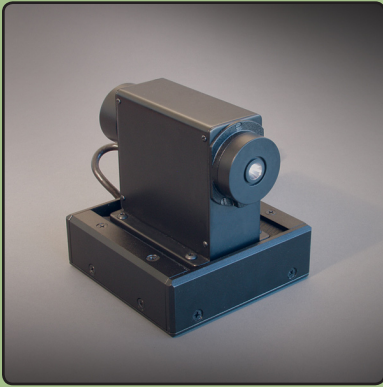


## THz DETECTORS – GOLAY CELLS



### 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. Golay Cell includes a built-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	10 <sup>4</sup> V/W
Sensitivity at 12.5 Hz modulation	10 <sup>-8</sup> W/H <sup>1/2</sup>
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 x 10 <sup>4</sup> to 10.7 x 10 <sup>4</sup> Pa
Humidity	45 -80 %

### Application Notes:

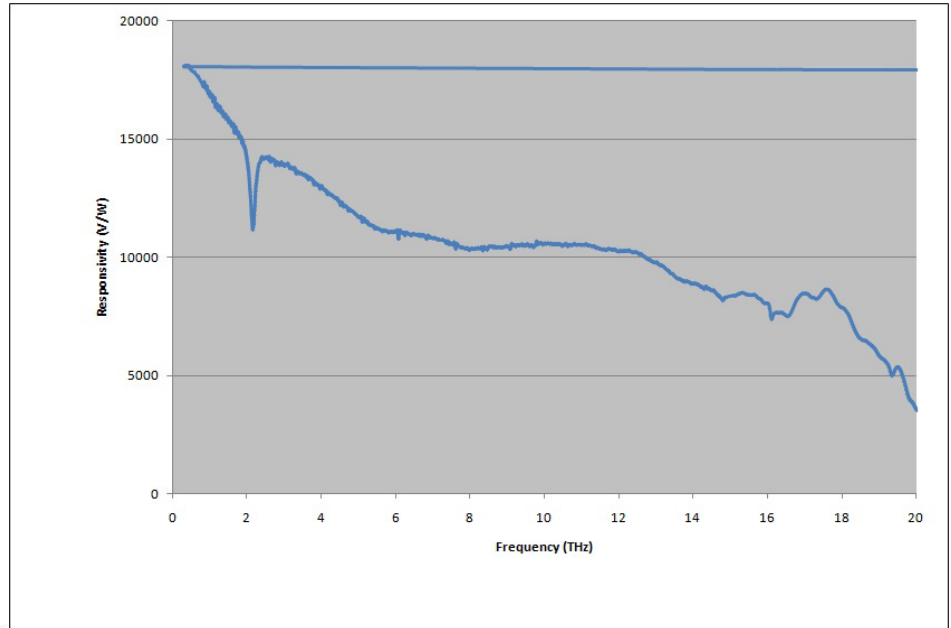
The Golay Cell can be used to detect both CW and pulsed THz radiation. However, due to a 25 ms response time, only average power can be measured for short pulse/high repetition rate THz sources.

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

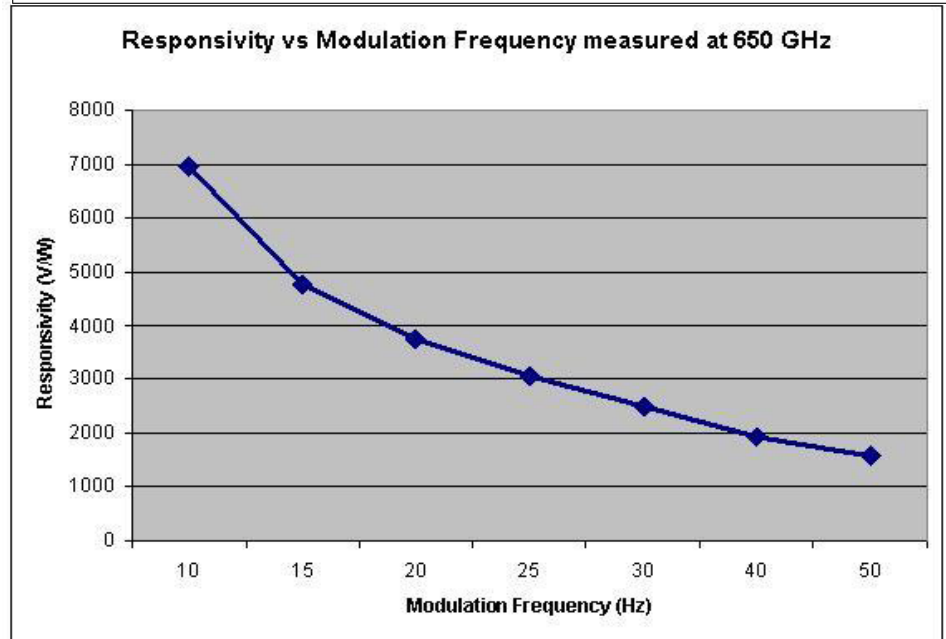
# THz DETECTORS – GOLAY CELLS

## Typical Golay Cell Responsivity Spectrum

GOLAY CELL WITH POLYETHYLENE WINDOW.  
SN 190744



GOLAY CELL WITH DIAMOND WINDOW.  
SN 180770



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](mailto:sales@mtinstruments.com)

858 W. Park St., Eugene, OR 97401, USA

Phone: 541-683-6505

Fax: 541-610-1825

[www.mtinstruments.com](http://www.mtinstruments.com)