



MWA5500CM SERIES PYROELECTRIC DETECTOR

High Frequency Premium Performance

With Integrated Current Mode Amplifier For Use With FTIR

Description

The MWA 5500CM Series DLATGS Pyroelectric Detectors are new devices from our family of high performance premium IR detectors. The specially processed DLATGS sensing element and the integrated current mode amplifier all in a TO5 transistor package provides the highest voltage response with an extremely high D*. The wide frequency response from below 1 Hz to beyond 4 kHz and a superior D* make the MWA 5500CM series the best choice for those applications where a large output signal and a very high signal to noise ratio is required.

The DLATGS crystal from which the sensing elements are produced is the latest development in pyroelectric materials technology. Its polarization is "locked in" thus no longer requiring a poling voltage to maintain the output signal level. The sensing elements are also especially thinned to achieve the highest performance. The very wide spectral sensitivity (U.V. to 1,000 μ) and high speed is achieved with a proprietary low thermal mass absorbing coating Broadband spectral sensitivity is limited in practice by the window selection.

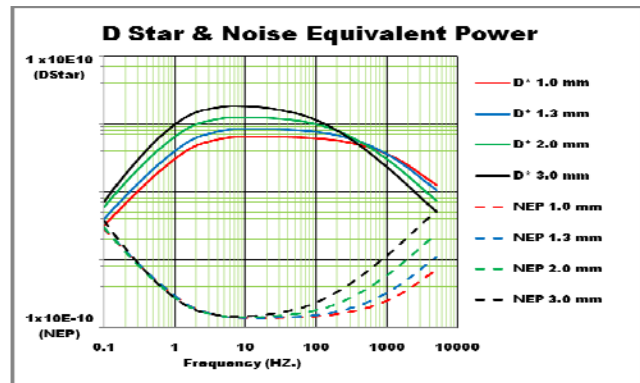
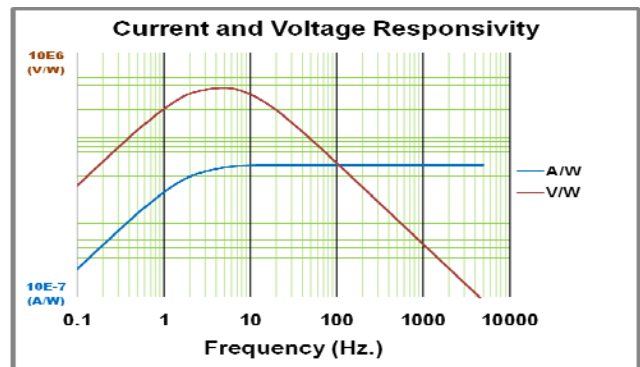
The output signal from the MWA 5500CM series may be of sufficient magnitude that a preamplifier may not be required thus saving cost and space for remote applications.

Applications

High Speed Spectroscopy (FTIR)
NDIR Process Control
Interferometers
Gas Analysis

Features

Integrated Current Mode Preamp.
Large Voltage Responsivity
High D* at higher frequencies
Gold Black Absorbing Coating
Wide Spectral Range: 0.1 - >1,000 μ m
Permanently Poled



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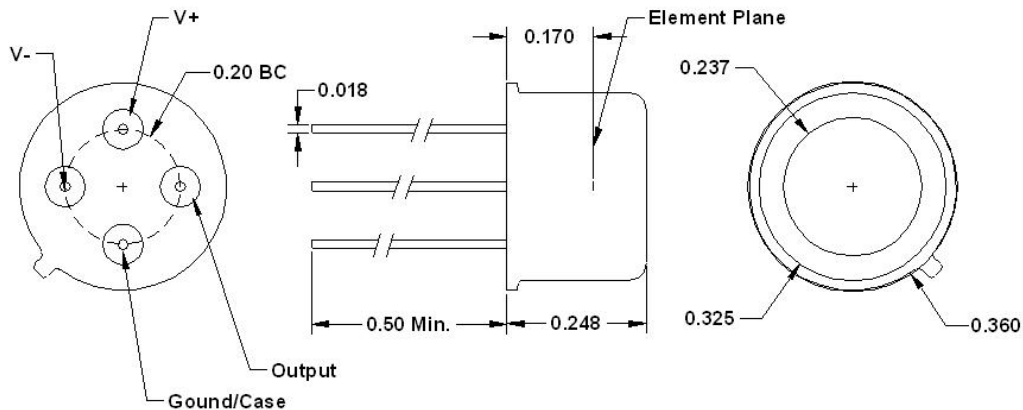
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TYPICAL SERIES 5500 CM PERFORMANCE SPECIFICATIONS					
(Standard TO-5 Package with 1 x 10 ¹¹ Ohms Load Resistor @ 1,000K BB)					
55XXCM		10	13	20	30
Element Dimensions	Dia. mm	1.0	1.3	2.0	3.0
Responsivity @ 10 Hz	VW ⁻¹	3.0 x 10 ⁵	→		
Thermal Time Constant	ms	50	→		
NEP (10, 1)	W	1.1 x 10 ⁻¹⁰	1.2 x 10 ⁻¹⁰	1.2 x 10 ⁻¹⁰	1.2 x 10 ⁻¹⁰
D* (10, 1)	cmHz ^{1/2} /W ⁻¹	7.7 x 10 ⁸	1.0 x 10 ⁹	1.5 x 10 ⁹	2.1 x 10 ⁹
Operating Voltage	VDC	± 2 - 5	→		
Operating Current	mA	10	→		
Output Impedance	Ohms	<100	→		
Recommended Operating Temperature	°C	-20 to 50	→		

Options

- Element Shape Square, Rectangular
- Window KBr, Csl, Ge, BaF, ZnSe, KRS5 (Others Available)
- Package Style TO5
- Thermo Electric Cooling (TO37, TO8, TO66 Package)
- Non Standard Pin Out Available

Mechanical Outline



Electrical Schematic

