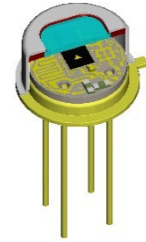


LME-392-#

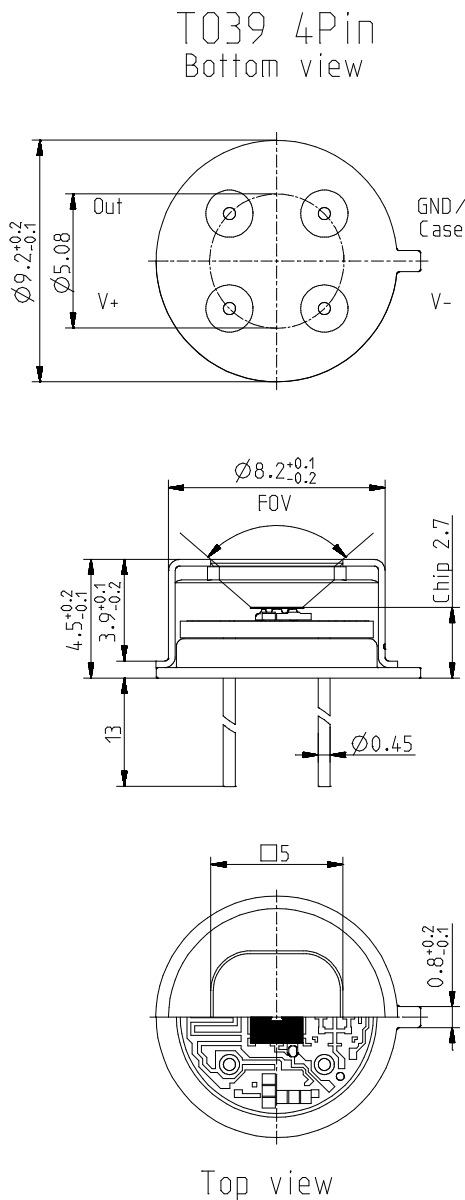
Special single channel pyroelectric detector

Description:

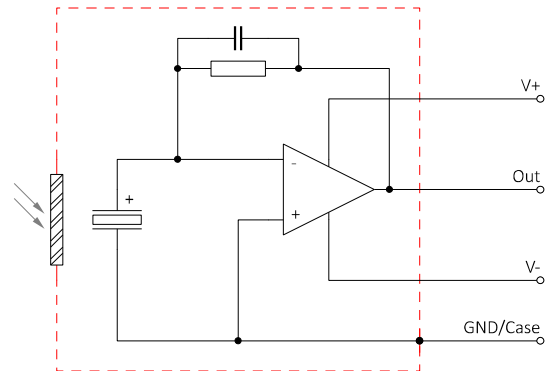
single channel; TO39 housing; medium chip size; low Micro;
OpAmp; current mode; feedback 2 GOhm;
advanced transimpedance amplifier (TIA) for 1 Hz to 750 Hz modulation frequency range;
frequency response flat from 10 Hz up to 500 Hz;



Housing:

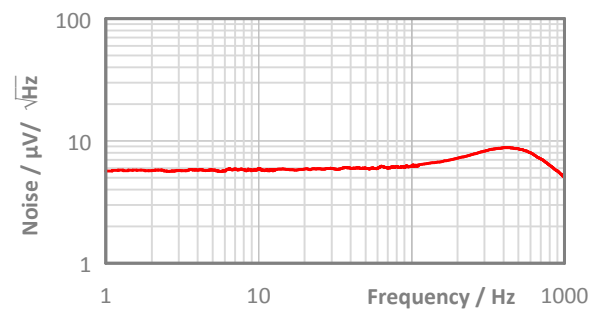
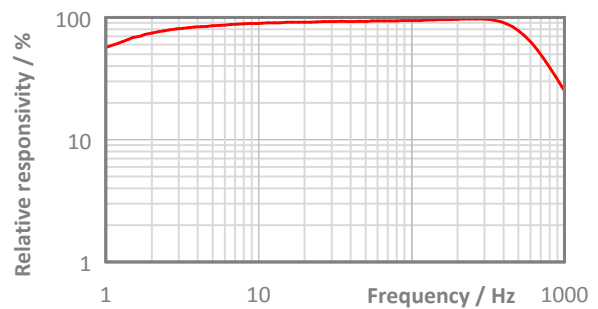


Pin Assigment:



Maximum current between Case and the "Case"-Pin 10 mA!

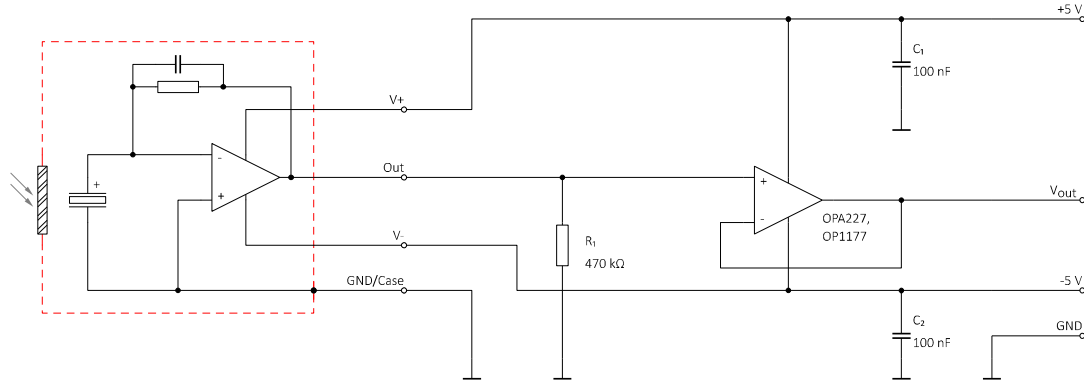
Frequency Response:



LME-392-#

Special single channel pyroelectric detector

Test Circuit:



Parameters:

| | | |
|---|-----|---|
| Aperture size | nom | □ 5.0 mm |
| Element size / type | nom | 2.0 × 2.0 mm ² lithium-tantalate with black layer |
| Thermal time constant | typ | 150 ms |
| Feedback resistor | nom | 2 × 1 GΩ ±10 % |
| Feedback capacitor | nom | 180 fF ±50 fF |
| Polarity | nom | Negative signal by positive IR flux change |
| Voltage responsivity (rms) {500 K, 100 Hz, 25 °C, without filter/window} | min | 3,000 V/W |
| Roll-off [-3 dB / -6 dB] | typ | 550 Hz / 700 Hz |
| Noise density (rms) {100 Hz, BW 1 Hz, 25 °C} | max | 7 μV/√Hz |
| Detectivity {500 K, 100 Hz, 1 Hz, 25 °C, without filter/window} | typ | 1.1E+08 cmVHz/W |
| Acceleration response @ 100 Hz | typ | 30 μV/g; g = 9.81 m/s ² |
| CMOS operational amplifier | nom | OpAmp2 |
| Supply voltage V+ - V- | max | 16 V |
| Operating supply voltage V+ / V- | | +2.2 ... 8.0 V / -2.2 ... -8.0 V |
| Recommended supply voltage V+ / V- | nom | V+ = +5 V; V- = -5 V |
| Supply current {output load 1 MΩ} | max | 150 μA |
| Offset voltage {25 °C; output load 1 MΩ} | | -5 mV ... +5 mV |
| Optimal output load | nom | 470 kΩ |
| Absolute output current | max | ±0.4 mA |
| Operating / Storage temperature | nom | -40 ... +85 °C |
| IR filter | | All InfraTec windows and filters are available (except KBr and CsI). Customized filters upon request. |
| Filter sizes | nom | Rectangular filters: (5.25 × 5.25) mm +0/-0.05 mm Circular filters: ø6.5 mm ±0.1 mm Standard thickness: 0.50 mm +0.2/-0.1 mm Thickness range 0.70 ... 1.10 mm on request |
| Field of View | min | CaF2 or BaF2; 0.4 mm thick: 80° Silicon substrate; 0.5 mm thick: 90° |

InfraTec reserves the right to change these specifications at any time without notification.