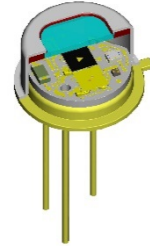


LME-336-#

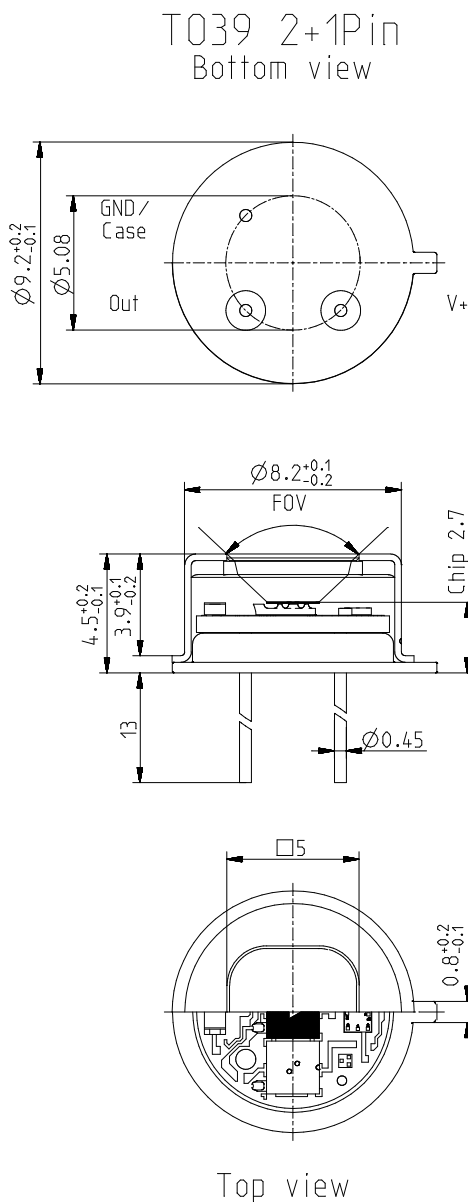
Single channel pyroelectric detector

Description:

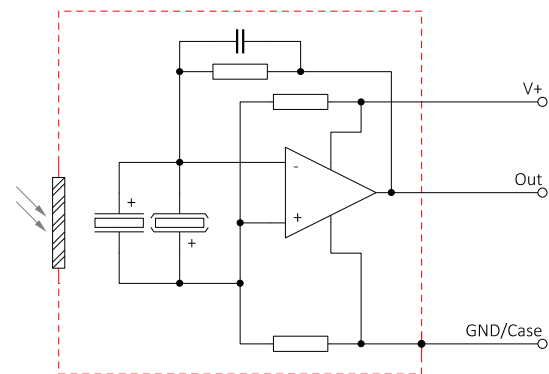
single channel; TO39 housing; medium chip size; thermal compensation; low Micro; OpAmp; ultra low power consumption; single supply; current mode; feedback 100 GOhm;



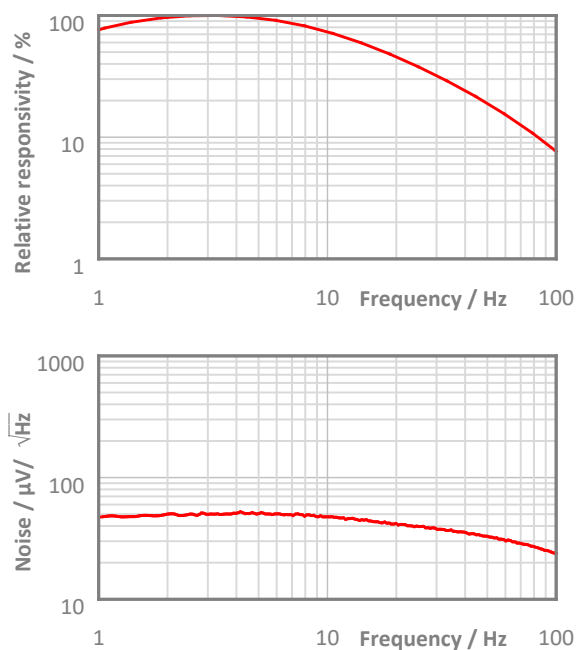
Housing:



Pin Assignment:



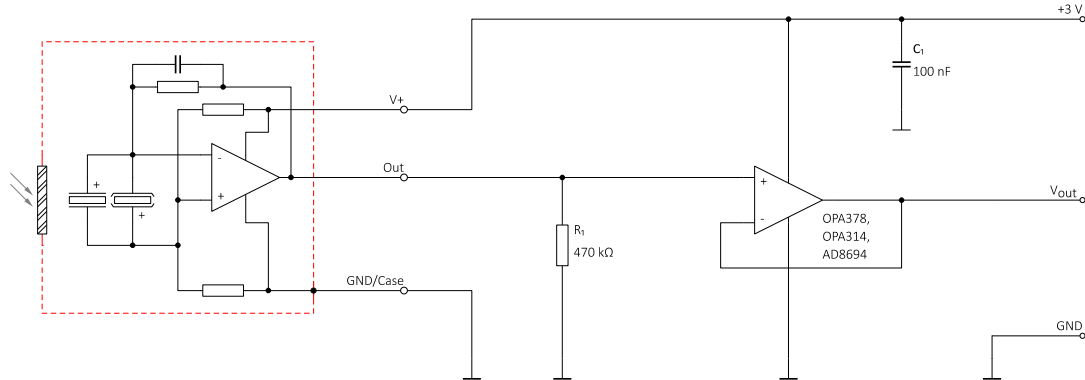
Frequency Response:



LME-336-#

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 | 100 GΩ ±20 % |
| Feedback capacitor | nom | 0.2 pF ±0.1 pF |
| Polarity | nom | Negative signal by positive IR flux change |
| Voltage responsivity (rms) {500 K, 10 Hz, 25 °C, without filter/window} | min | 85,000 V/W |
| Noise density (rms) {10 Hz, BW 1 Hz, 25 °C} | max | 57 μV/√Hz |
| Detectivity {500 K, 10 Hz, 1 Hz, 25 °C, without filter/window} | typ | 4.0E+08 cmVHz/W |
| Acceleration response {5 ... 200 Hz} | typ | 250 μV/g; g = 9.81 m/s ² |
| CMOS operational amplifier | nom | OpAmp3 |
| Operating supply voltage V+ | | 2.7 ... 10 V |
| Recommended supply voltage V+ | nom | V+ = +3 V |
| Supply current {output load 1 MΩ} | max | 45 μA |
| Offset voltage {25 °C; output load 1 MΩ} | | V+/2 ±10% |
| Optimal output load | nom | 470 kΩ |
| Absolute output current | max | 1 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 | CaF ₂ or BaF ₂ ; 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.