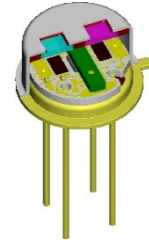


LIM-262-#

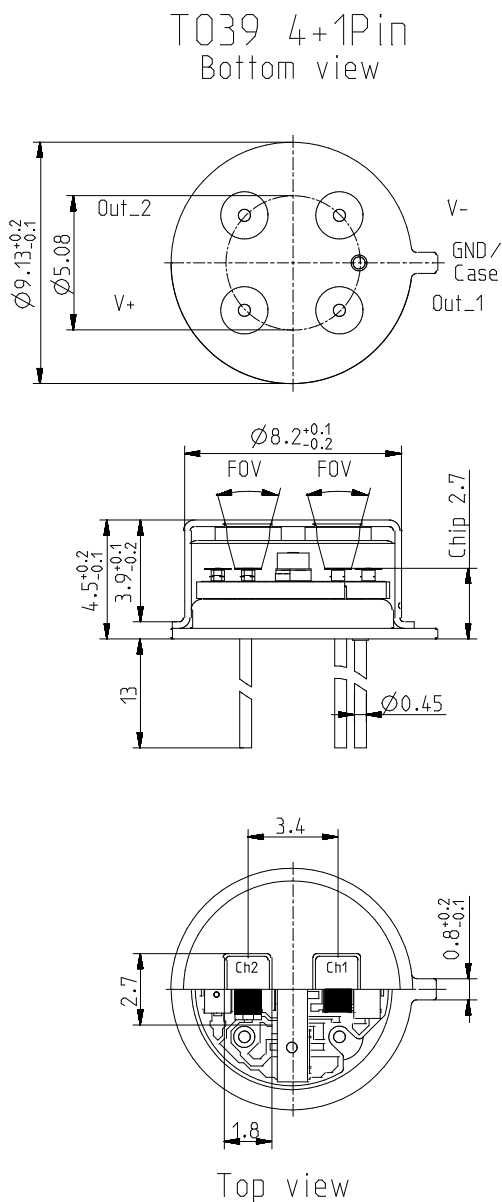
Planar multi channel pyroelectric detector

Description:

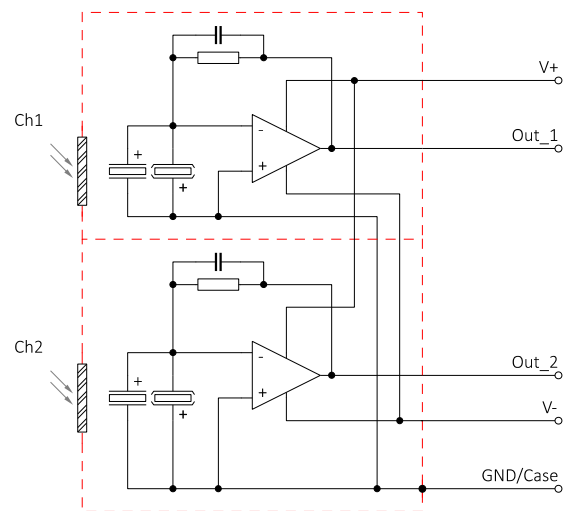
dual channel; TO39 housing; small chip size; thermal compensation;
OpAmp; current mode; feedback 100 GOhm;



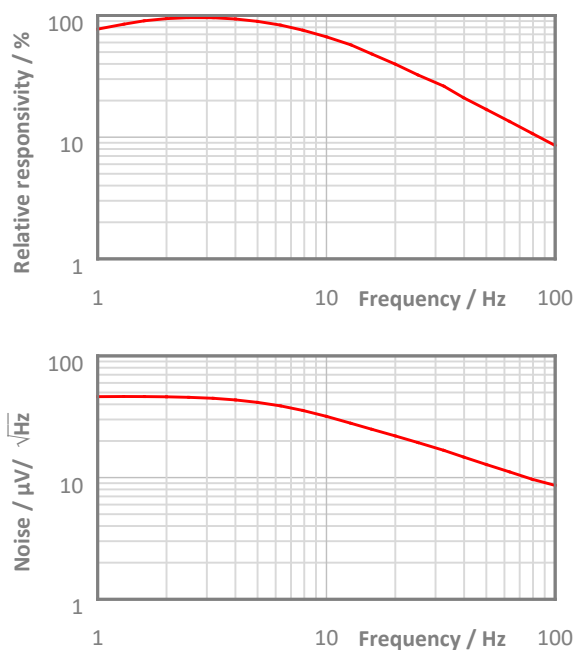
Housing:



Pin Assignment:



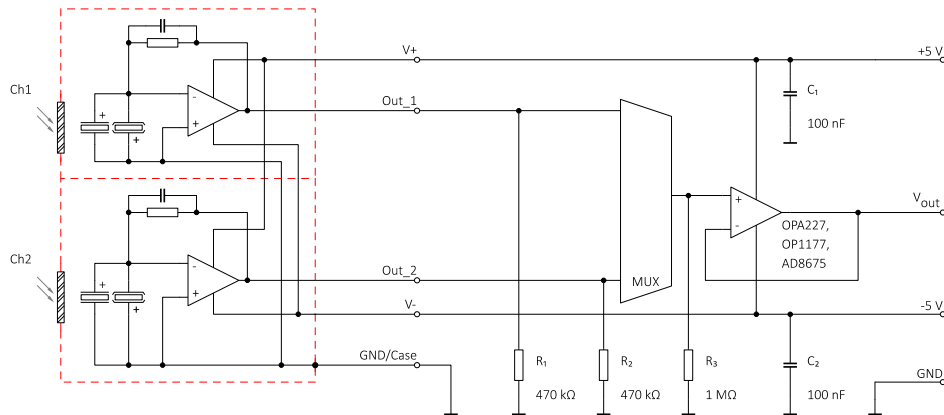
Frequency Response:



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Planar multi channel pyroelectric detector

Test Circuit:



Parameters:

| | | |
|--|-----|--|
| Aperture size | nom | ∅6.0 mm, single channel 2.7 × 1.8 mm ² |
| Element size / type | nom | 1.8 × 1.0 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 | 60,000 V/W |
| Noise density (rms) {10 Hz, BW 1 Hz, 25 °C} | max | 35 μV/√Hz |
| Detectivity {500 K, 10 Hz, 1 Hz, 25 °C, without filter/window} | typ | 4.5E+08 cmVHz/W |
| 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 | | Combinations of all InfraTec standard narrow band pass filters are available. Customized filters upon request. |
| Filter sizes | nom | Rectangular filters: (3.50 × 2.50) mm ±0.1 mm Circular filters: not applicable 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: not applicable Silicon substrate; 0.5 mm thick: 30° |

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