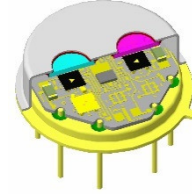


## LMM-242-#

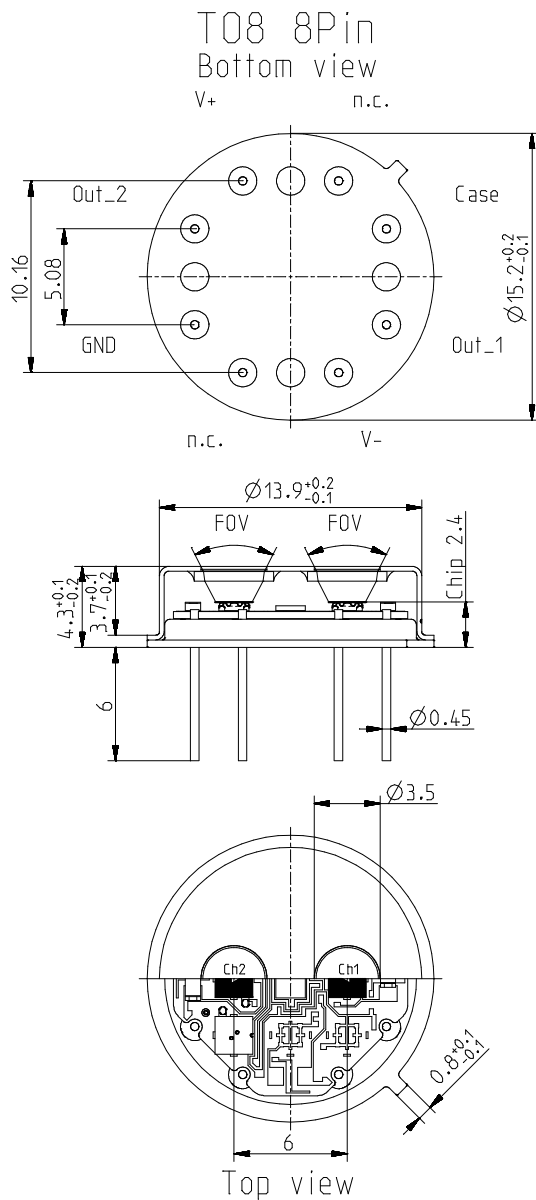
## Planar multi channel pyroelectric detector

### Description:

dual channel; TO8 housing; medium chip size; thermal compensation; low Micro; OpAmp; current mode; feedback 100 GOhm;

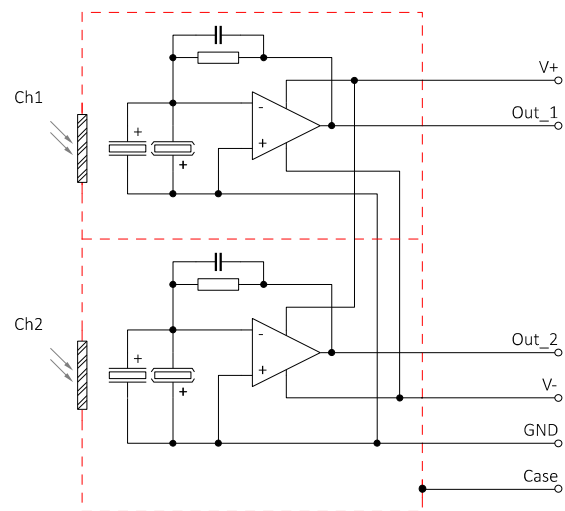


### Housing:

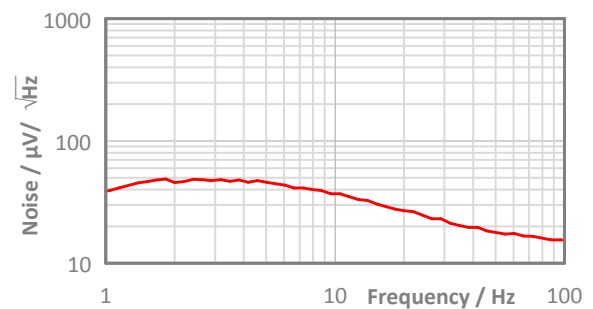
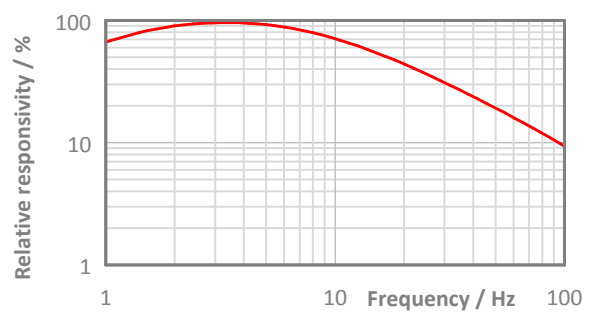


Maximum current between Case and the "Case"-Pin 10 mA!

### Pin Assigment:



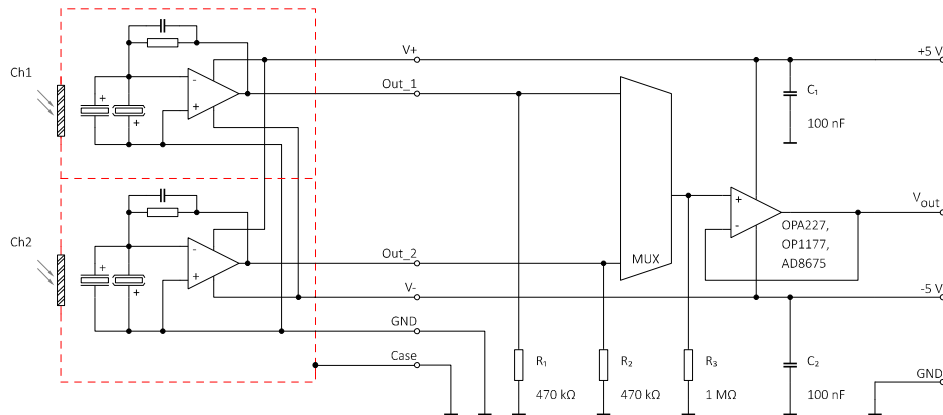
### Frequency Response:



## LMM-242-#

## Planar multi channel pyroelectric detector

### Test Circuit:



### Parameters:

Aperture size	nom	ø9.5 mm, single channel ø3.5 mm
Element size / type	nom	2.0 × 2.0 mm <sup>2</sup> 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, 3 Hz, 25 °C, without filter/window}	min	90,000 V/W
Noise density (rms) {3 Hz, BW 1 Hz, 25 °C}	max	65 μV/√Hz
Detectivity {500 K, 3 Hz, 1 Hz, 25 °C, without filter/window}	typ	6.0E+08 cmVHz/W
Acceleration response {5 ... 200 Hz}	typ	300 μV/g; g = 9.81 m/s <sup>2</sup>
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
Potential of detector case	nom	Selectable potential between -8 ... +8 V to Ground {EMC requires low-impedance coupling}
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: (4.20 × 4.20) 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 <sub>2</sub> or BaF <sub>2</sub> ; 0.4 mm thick: not applicable Silicon substrate; 0.5 mm thick: 50°

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