

LMM-274-#

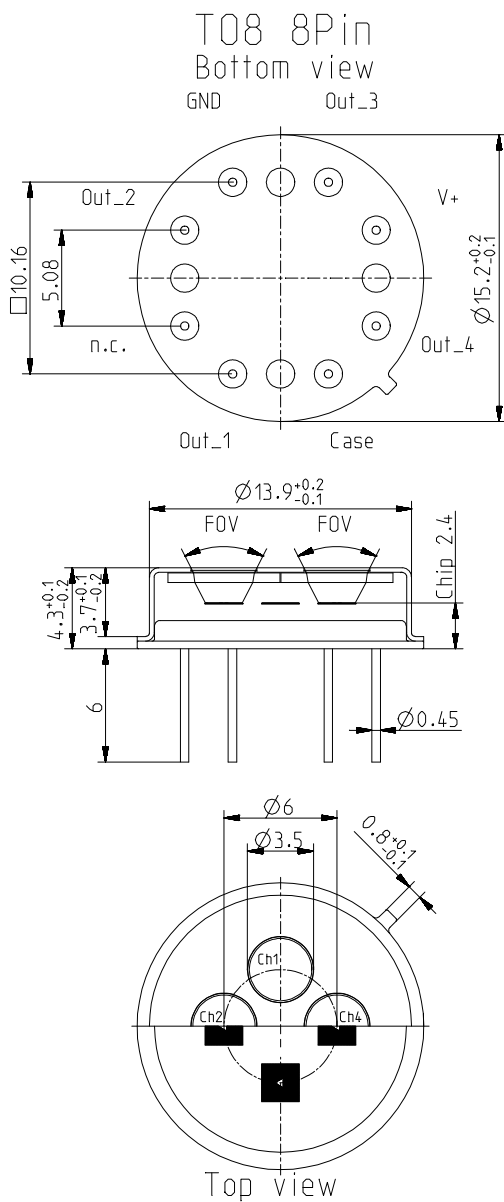
Planar multi channel pyroelectric detector

Description:

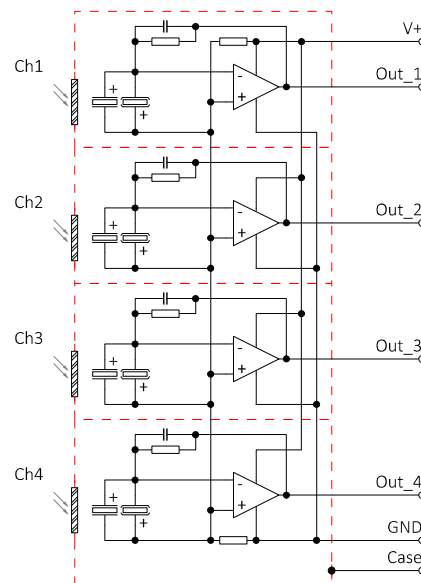
quad channel; TO8 housing; medium chip size; thermal compensation; low Micro; OpAmp; ultra low power consumption; single supply; current mode; feedback 100 GOhm;



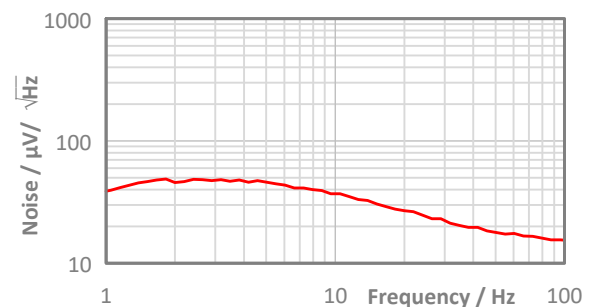
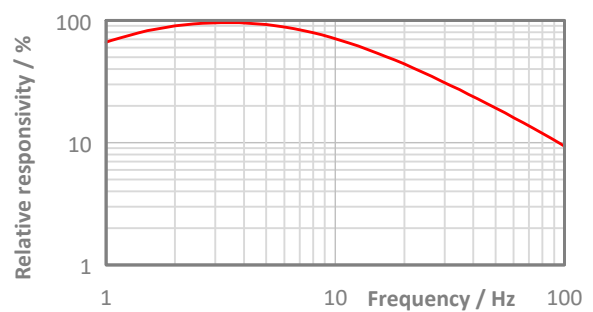
Housing:



Pin Assignment:



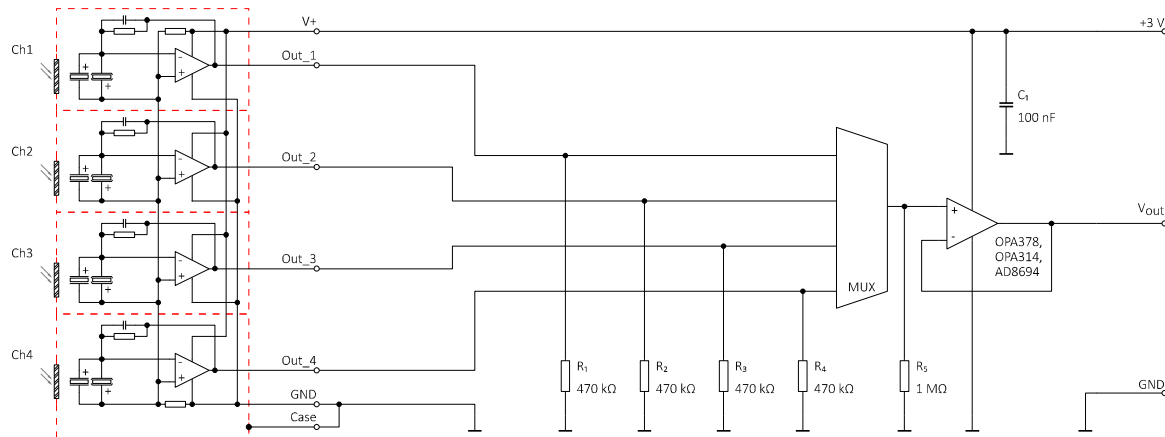
Frequency Response:



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Test Circuit:



Parameters:

Aperture size	nom	Ø 9.5 mm, single channel Ø 3.5 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, 3 Hz, 1 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, BW 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 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	135 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		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 ₂ or BaF ₂ ; 0.4 mm thick: not applicable Silicon substrate; 0.5 mm thick: 50°

If visible light can penetrate the glass-metal seal in the detector socket, a small signal caused by light leakage may occur.

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