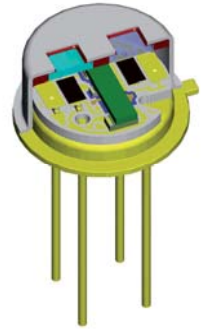


# LIM-272-#

## pyroelectric multispectral detector

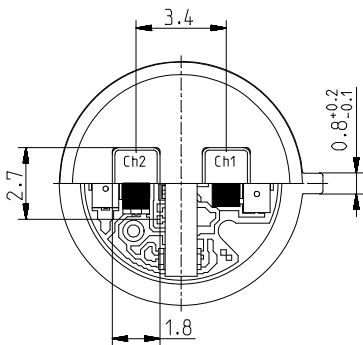
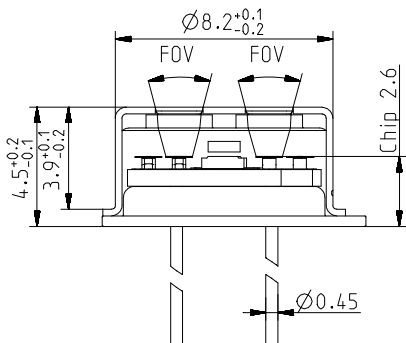
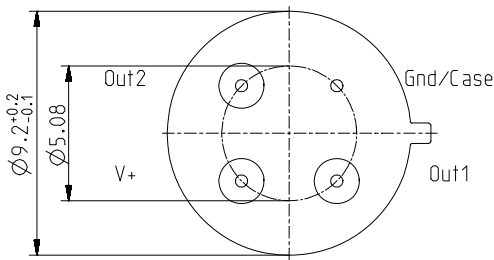
### Description:

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



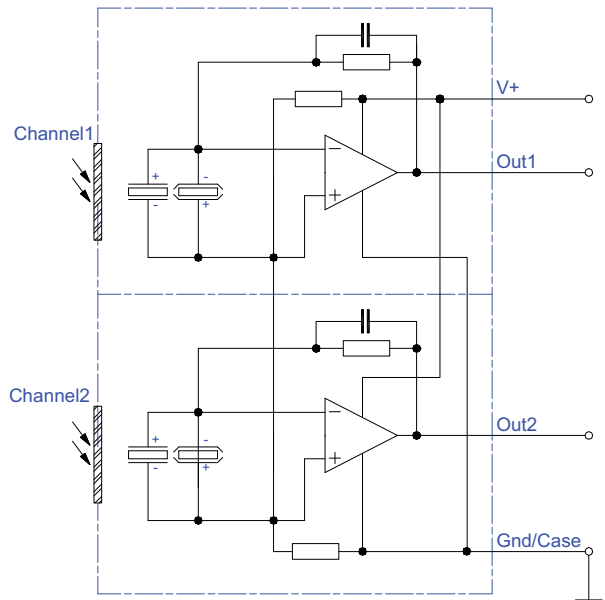
### HOUSING:

T039 3+1Pin  
Bottom view

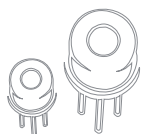
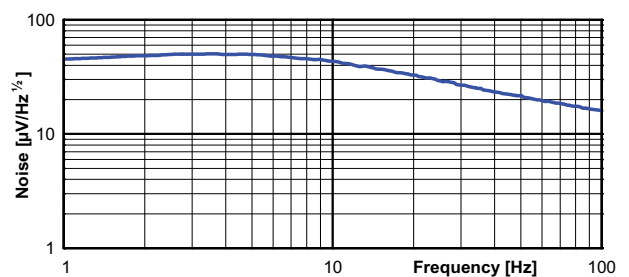
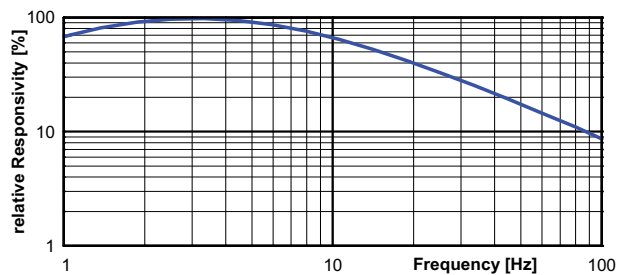


Top view

### PIN ASSIGNMENT:



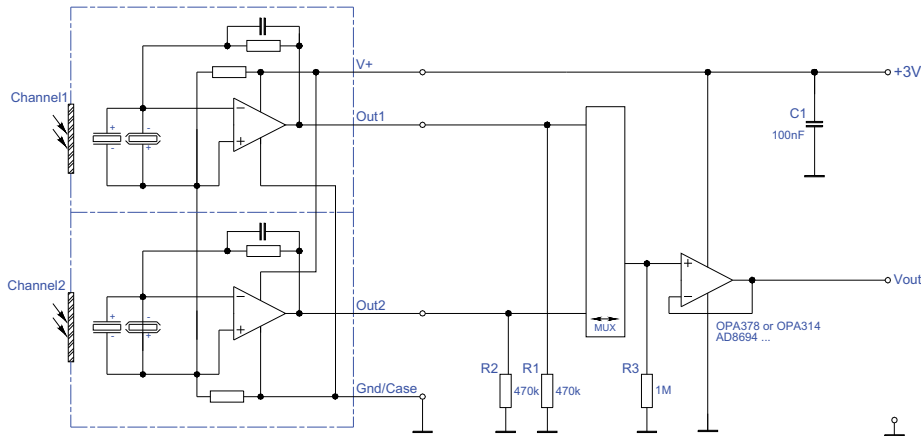
### FREQUENCY RESPONSE:



## LIM-272-#

## pyroelectric multispectral detector

## TEST CIRCUIT:



## PARAMETERS:

Aperture size	nom	ø6.0 mm, single channel 2.7x1.8 mm <sup>2</sup>
Element size / type	nom	1.0x1.8 mm <sup>2</sup> lithium-tantalate with black layer
Thermal time constant	typ	150 ms
Feedback resistor	nom	100 GOhm ±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	50 µV/(sqrt[Hz])
Detectivity {500 K, 10 Hz, 1 Hz, 25 °C, without filter/window}	typ	3.0E+08 cm(sqrt[Hz])/W
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 MOhm}	max	60 µA
Offset voltage {25 °C; output load 1 MOhm}		V+/2 ±10 %
Optimal output load	nom	330 kOhm
Absolute output current	max	1 mA
Operating / Storage temperature	nom	-25 ... +85 °C
IR window		Combinations of all InfraTec standard narrow band pass filters are available. Customized filters upon request.
Filter sizes	nom	rectangular filters: (3.50 ±0.1 x 2.50 ±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	CaF2 or BaF2; 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.

