

# LIM-162-#

## pyroelectric multispectral detector

### Description:

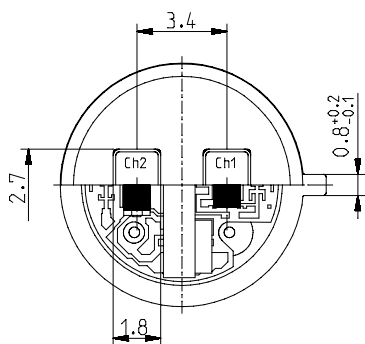
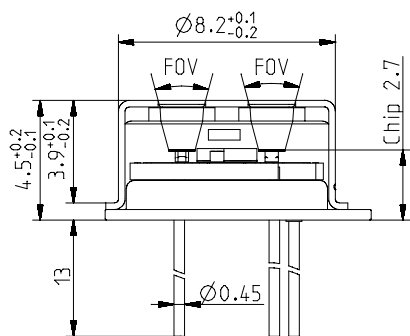
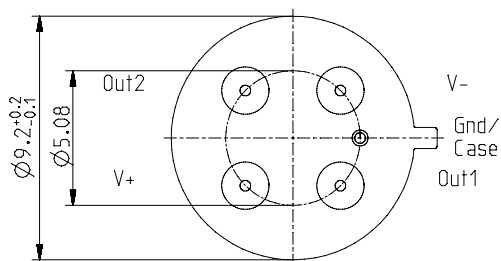
dual channel; TO39 housing; small chip size; OpAmp; current mode; feedback 24GOhm;



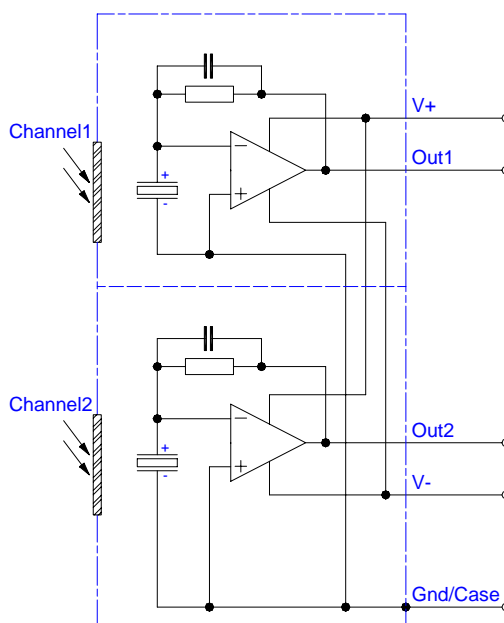
### HOUSING:

### PIN ASSIGNMENT:

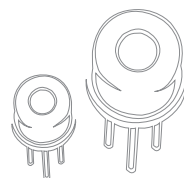
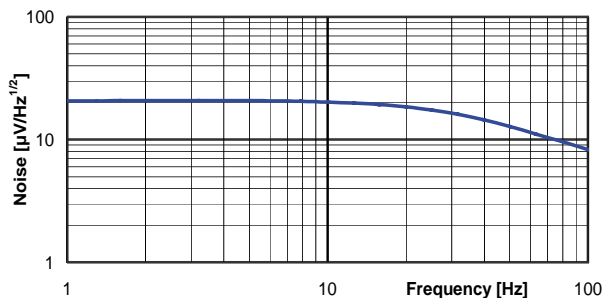
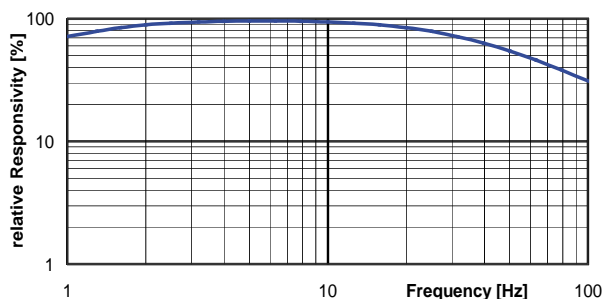
TO39 4+1Pin  
Bottom view

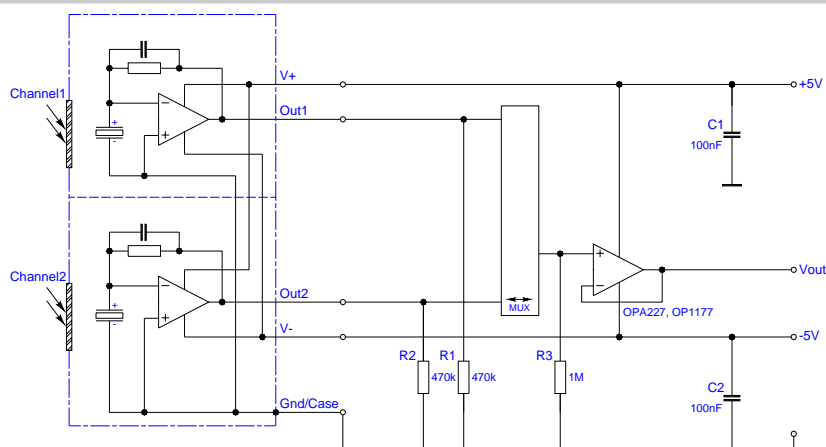


Top view



### FREQUENCY RESPONSE:



**LIM-162-#****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	24 GOhm ±10%
Feedback capacitor	nom	0.2 pF ±0.1 pF
Polarity	nom	negative signal by positive IR flux change
Voltage responsivity (rms) {500K, 10 Hz, 25 °C, without window}	min	32000 V/W
Noise density (rms) {10 Hz, BW 1 Hz, 25 °C}	max	24 μV/(sqrt[Hz])
Detectivity {500K, 10 Hz, 1 Hz, 25 °C, without window}	min	1.8E+08 cm(sqrt[Hz])/W
CMOS operational amplifier	nom	OpAmp2 (for characteristics see application note)
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 1MOhm}	max	150 μA
Offset voltage {25 °C; output load 1MOhm}		-5 mV ... +5 mV
Optimal output load	nom	330 kOhm
Absolute output current	max	±0.4 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	CaF <sub>2</sub> or BaF <sub>2</sub> ; 0.4 mm thick: not applicable Silicon substrate; 0.5 mm thick: 30°