

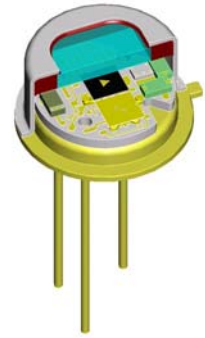
PRELIMINARY

LME-336-F

pyroelectric detector

Description: **PROTOTYPE**

single channel; TO39 housing; medium chip size; thermal compensation; low Micro; OpAmp;
 current mode; feedback 100GOhm;
 ch1: NBP 4.30µm / 600nm Flame;
 ultra low power consumption, single supply

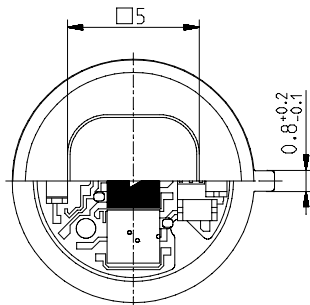
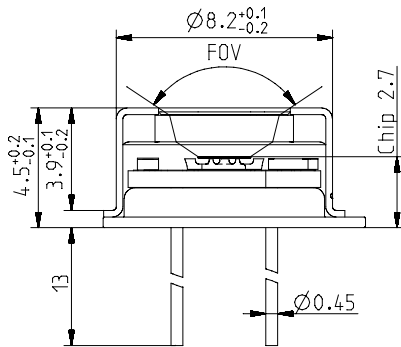
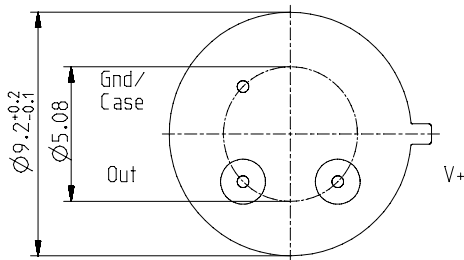


InfraTec Part number: S85165

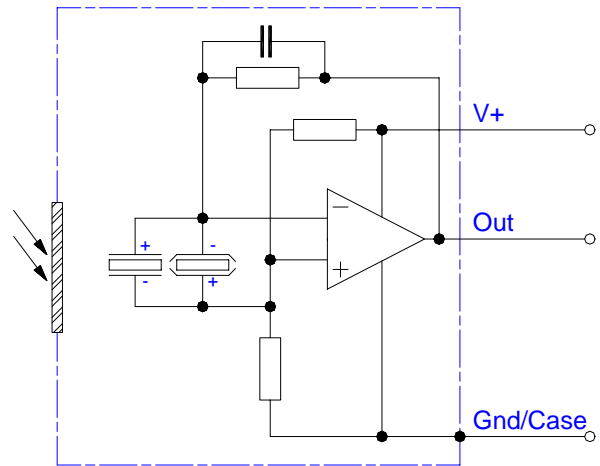
HOUSING:

PIN ASSIGNMENT:

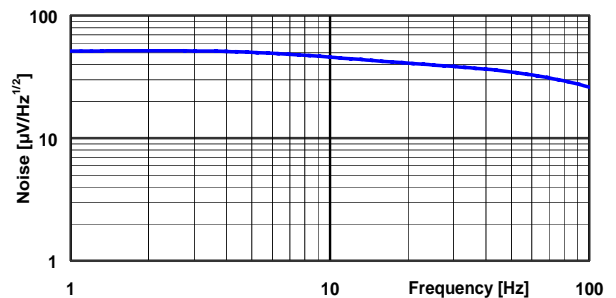
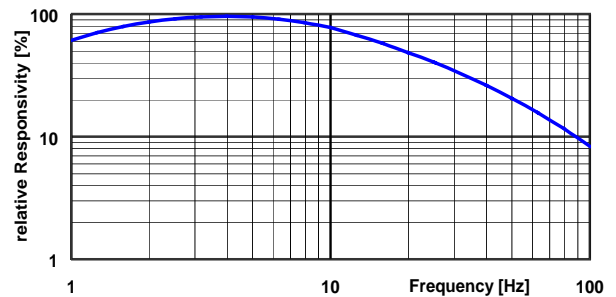
TO39 3Pin
Bottom view



Top view



FREQUENCY RESPONSE:

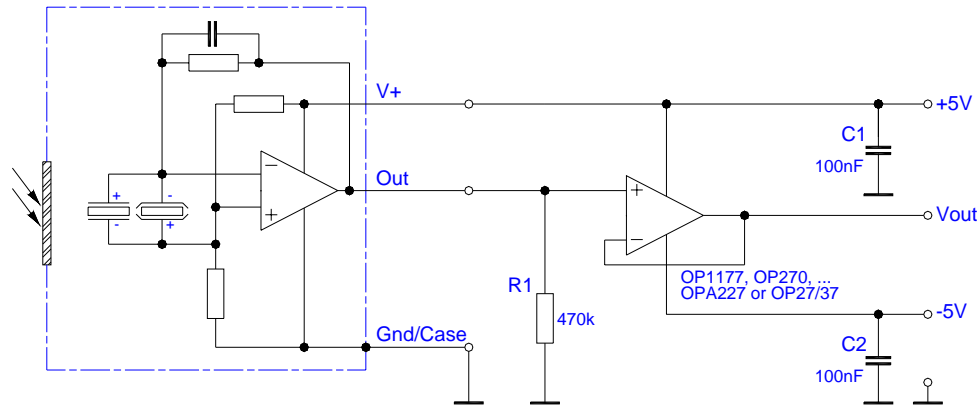


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pyroelectric detector

TEST CIRCUIT:



PARAMETERS:

Aperture size	nom	5.0 mm sq.
Element size / type	nom	2.0x2.0 mm ² 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) {500K, 10 Hz, 25 °C, without window}	min	90,000 V/W
Voltage responsivity (rms) Channel 1 {500K, 10 Hz, 25 °C, window included}	typ	6,300 V/W *)
Noise density (rms) {10 Hz, BW 1 Hz, 25 °C}	max	50 μV/(sqrt[Hz])
Detectivity {500K, 10 Hz, 1 Hz, 25 °C, without window}	min	3.6E+08 cm(sqrt[Hz])/W
Acceleration response {5 ... 200Hz}	typ	250 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+ = +5 V
Supply current {output load 1MOhm}	max	30 μA
Offset voltage {25 °C; output load 1MOhm}		V+/2 ±10%
Optimal output load	nom	330 kOhm
Absolute output current	max	1 mA
Operating / Storage temperature	nom	-25 ... +85°C
IR window		NBP 4.30μm / 600nm Flame
Field of View	nom	112°
*)	note	IR filter blocking is different from lot to lot and affects relevant the signal voltage at a 500K black body illumination.