

Datasheet - Standard Product

# LIE-316-#

pyroelectric detector

## Description:

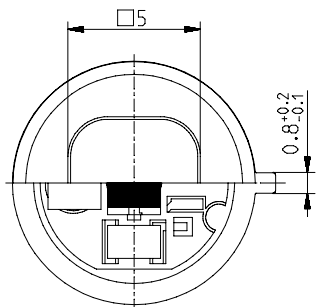
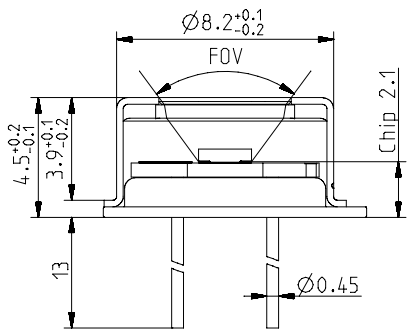
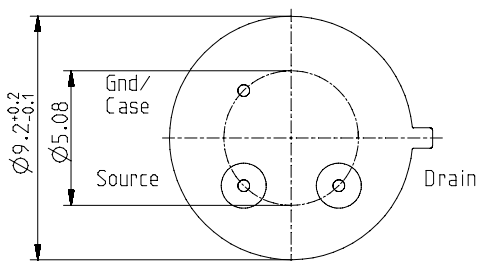
single channel; TO39 housing; medium chip size; thermal compensation; JFET; voltage mode;



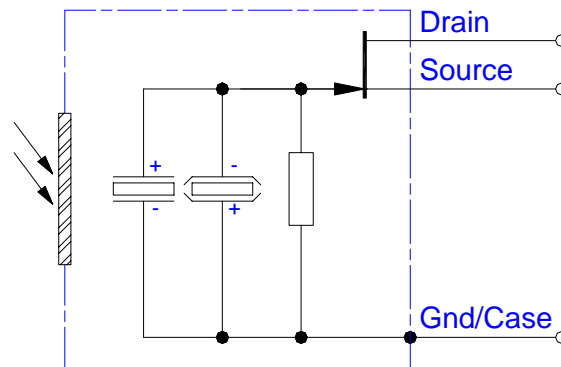
### HOUSING:

### PIN ASSIGNMENT:

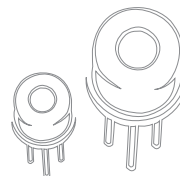
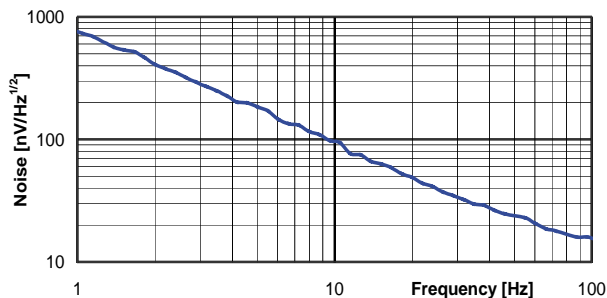
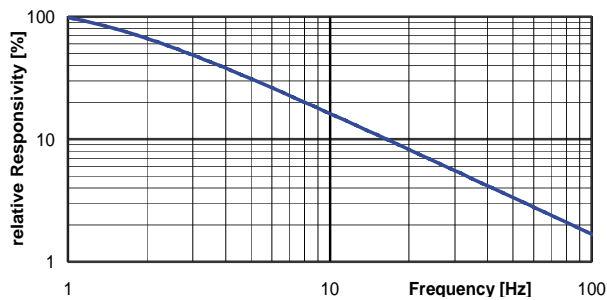
TO39 3Pin  
Bottom view



Top view



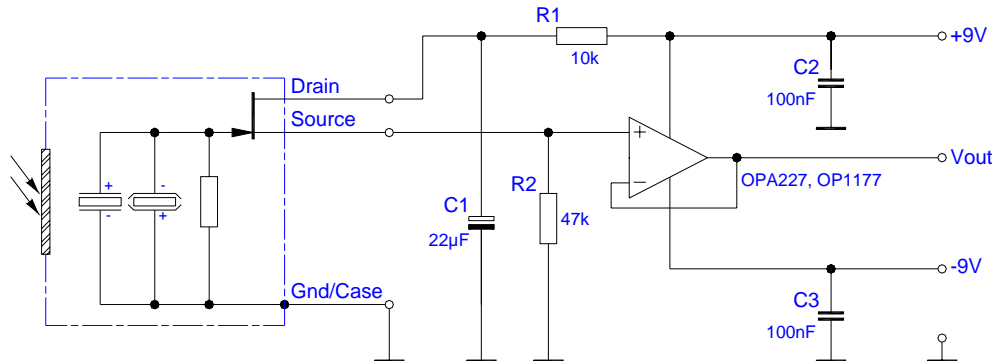
### FREQUENCY RESPONSE:



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## pyroelectric detector

### TEST CIRCUIT:



### PARAMETERS:

Aperture size	nom	5.0 mm sq.
Element size / type	nom	2.0x2.0 mm <sup>2</sup> lithium-tantalate with black layer
Thermal time constant	typ	150 ms
Electrical time constant	typ	4 s
Polarity	nom	positive signal by positive IR flux change
Voltage responsivity (rms) {500K, 10 Hz, 25 °C, without window}	min	150 V/W
Noise density (rms) {10 Hz, BW 1 Hz, 25 °C}	max	130 nV/(sqrt[Hz])
Detectivity {500K, 10 Hz, 1 Hz, 25 °C, without window}	min	2.3E+08 cm(sqrt[Hz])/W
Offset voltage {opt. Drain current = 10 ... 100µA}	nom	0.4 ... 1.5 V
Drain source voltage	max	18 V
Operating / Storage temperature	nom	-25 ... +85°C
IR window		All InfraTec windows and filters are available (except KBr and CsI). Customized filters upon request.
Filter sizes	nom	rectangular filters: (5.25 x 5.25) mm +0/-0.05 mm circular filters: ø6.5 mm ±0.1 mm 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: 65° Silicon substrate; 0.5 mm thick: 70°

