

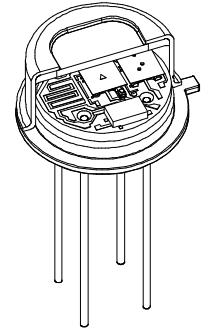
# LME-335-#

2.0 x 2.0 mm<sup>2</sup> pyroelectric IR detector  
thermal compensated, CMOS preamplifier

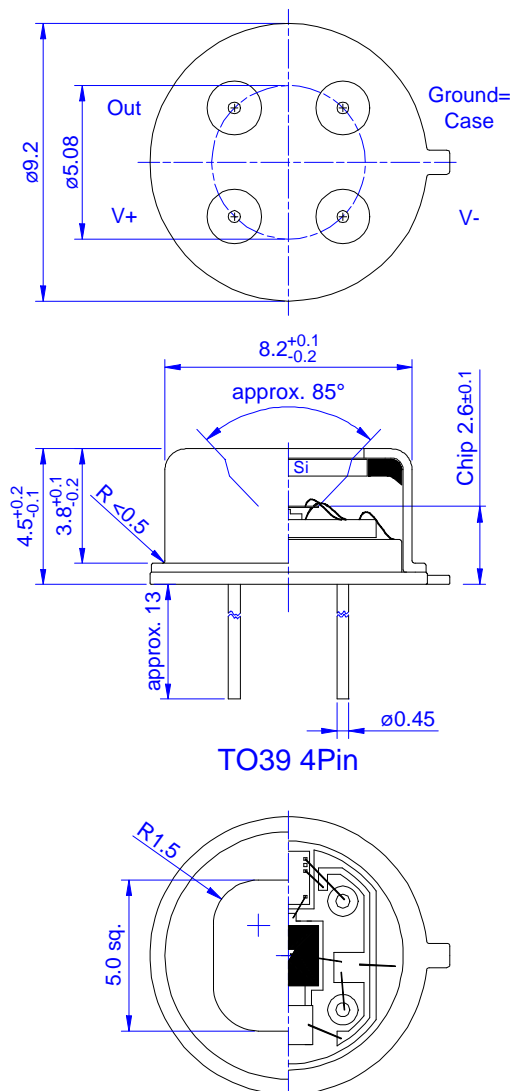
## Description: LME-335-#

[# = extension code]

single element, area 2.0x2.0mm<sup>2</sup>, thermal compensation, ultra low microphonic effect;  
for current mode, with micro power OpAmp; feedback R 100GOhm ±20% // C 0.20±0.1pF;  
very high gain

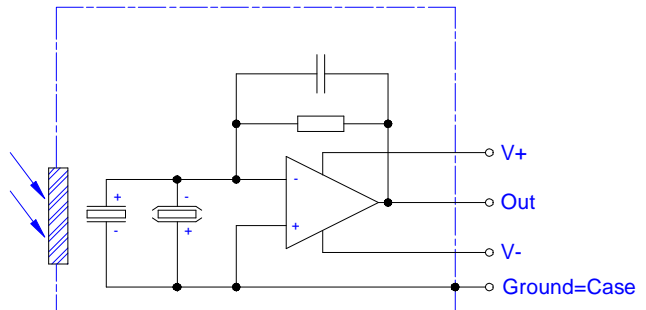


## Housing:



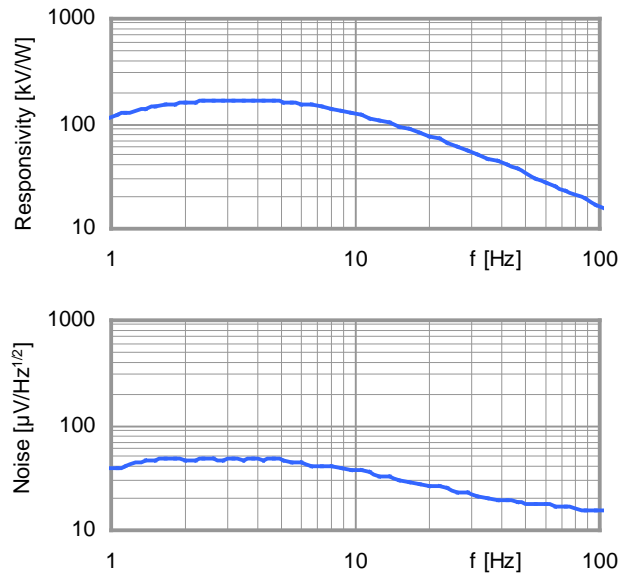
Maximum current between case and the "case" - pin 10 mA!

## Pin assignment:



Standard Products

## Frequency response:



**InfraTec GmbH**  
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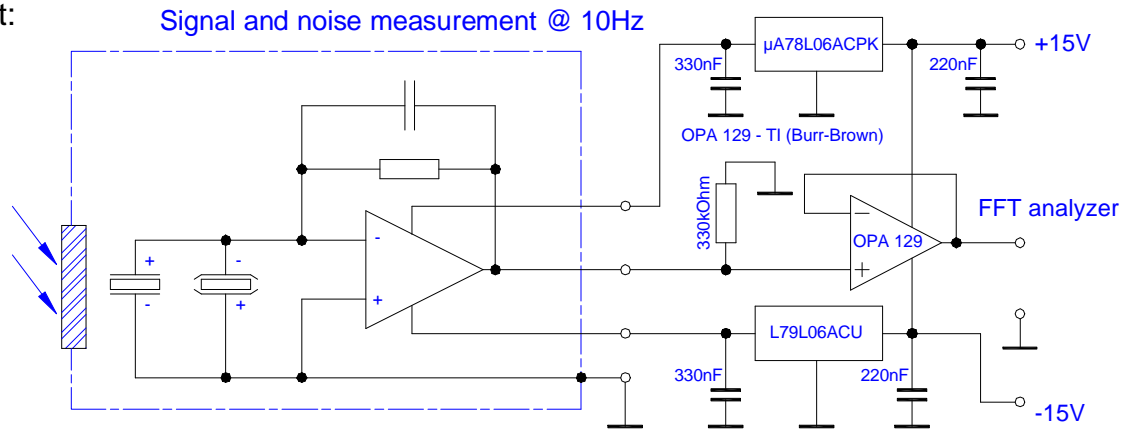


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## LME-335-#

2.0 x 2.0 mm<sup>2</sup> pyroelectric IR detector  
thermal compensated, CMOS preamplifier

Test circuit:



Parameters:

|  |     |   |
|--|-----|---|
| Element size / type  | nom | 2.0x2.0 mm <sup>2</sup> lithium-tantalate with black layer  |
| Aperture   | nom | 5.0 mm sq.  |
| Thermal time constant                                      | typ | 150 ms  |
| Feedback resistor  | nom | 100 GOhm ±20%   |
| Feedback capacitor   | nom | 0.2±0.1 pF  |
| Polarity   | nom | negative signal by positive IR flux change  |
| Voltage Responsivity<br>{500K, 10Hz, 25°C, without window} | min | 90,000 V/W  |
| Noise density<br>{10Hz, BW 1Hz, 25°C}                      | max | 40 µV/Hz <sup>1/2</sup>   |
| Detectivity<br>{500K, 10Hz, 1Hz, 25°C, without window}     | min | 4.5*10 <sup>8</sup> cmHz <sup>1/2</sup> /W  |
| Acceleration response {5 ... 200Hz}                        | typ | 300 µV/g; g=9.81m/s <sup>2</sup>  |
| CMOS operational amplifier                                 | nom | OpAmp2 (for characteristics see application note)   |
| Supply voltage V <sup>+</sup> - V <sup>-</sup>             | max | 16 V  |
| Operating supply voltage V <sup>+</sup> / V <sup>-</sup>   |     | +2.2 ... 8.0 V / -2.2 ... -8.0 V  |
| Recommended supply voltage                                 | nom | V <sup>+</sup> = +5 V; V <sup>-</sup> = -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   |
| Window cap   |     | All InfraTec windows and filters are available (except KBr and CsI). Customized filters upon request. |

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

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## InfraTec GmbH

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