

# LMM-244-#

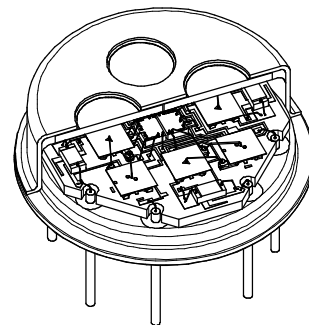
## Quad channel pyroelectric multicolor detector thermal compensated, CMOS preamplifier (PyroMid®)

### Description: LMM-244-#

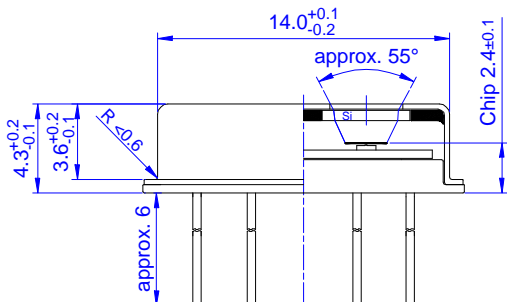
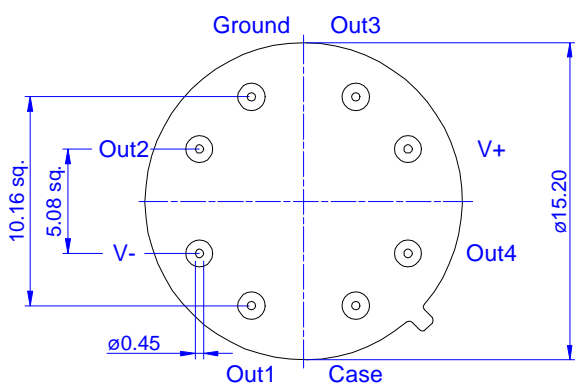
[# = extension code]

quad color, potential-free TO8 housing, thermal compensation, ultra low microphonic effect;  
current mode with micro power OpAmp; feedback R 100GOhm ±20% // C 0.20±0.1pF;  
very high gain

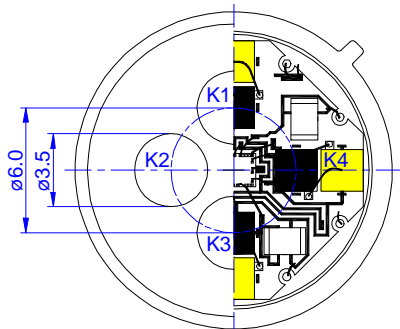
PyroMid® detectors are State-of-the-art, cost effective, multicolor detectors for virtually any infrared application.



### Housing:

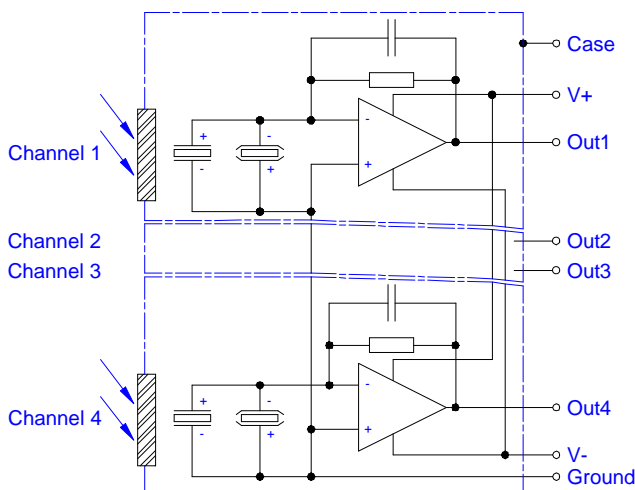


TO8 / 0.6" 8Pin

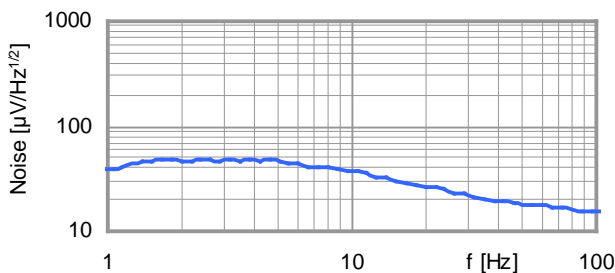
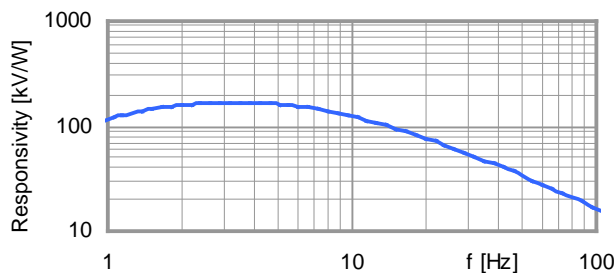


Maximum current between case and the 'case' - pin 10 mA!

### Pin assignment:



### Frequency response:



Multi-color Products

**InfraTec GmbH**  
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Gostritzer Str.61-63  
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http://www.InfraTec.de

distributed by:

**ELECTRO OPTICAL COMPONENTS, Inc.**  
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Santa Rosa, California 95403

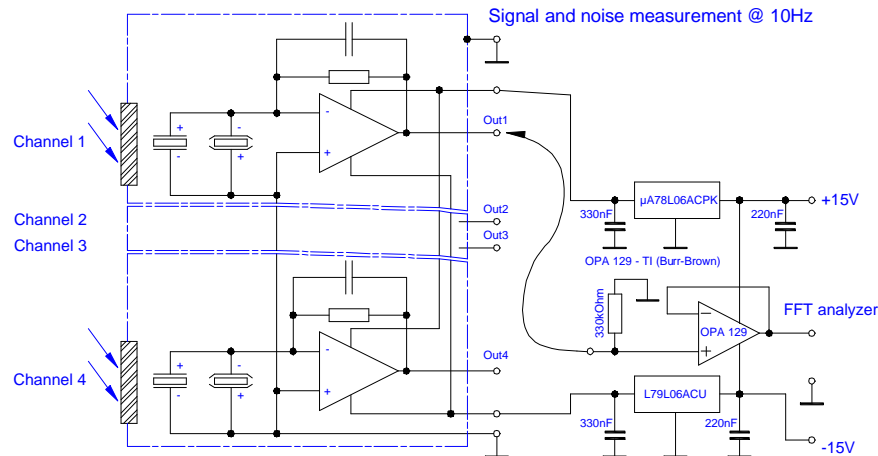


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## LMM-244-#

Quad channel pyroelectric multicolor detector  
thermal compensated, CMOS preamplifier (PyroMid®)

Test circuit:



Parameters:

Aperture size	nom	ø9.5 mm, single channel ø3.5 mm
Element size / type	nom	2.0x2.0 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±0.1 pF
Polarity	nom	negative signal by positive IR flux change
Voltage Responsivity {500K, 10Hz, 25°C, without window}	min	90,000 V/W
Noise density {10Hz, BW 1Hz, 25°C}	max	45 μV/Hz <sup>1/2</sup>
Detectivity {500K, 10Hz, 1Hz, 25°C, without window}	min	4.2*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
Potential of detector case	nom	selectable potential between -8 ... +8V to Ground {EMC requires low-impedance coupling}
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!

© InfraTec GmbH, September 12<sup>th</sup> 2005

**InfraTec GmbH**

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