**Description:**
quad channel; TO8 housing; medium chip size; thermal compensation; OpAmp; current mode; feedback 100 GOhm;

**Housing:**

**Pin Assignment:**

**Frequency Response:**

**Noise / µV/√Hz**

```
1000
100
10
1
1 10 100 Frequency / Hz
```

```
1000
100
10
1
1 10 100 Frequency / Hz
```

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Infrarotsensorik und Messtechnik
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PYROMID® multi channel pyroelectric detector

Test Circuit:

Parameters:

- **Aperture size** nom 8.5 mm
- **Element size / type** nom $2.0 \times 2.0 \text{ mm}^2$ lithium-tantalate with black layer
- **Thermal time constant** typ 150 ms
- **Feedback resistor** nom $100 \text{ G\Omega} \pm 20\%$
- **Feedback capacitor** nom $0.2 \text{ pF} \pm 0.1 \text{ pF}$
- **Polarity** nom Negative signal by positive IR flux change
- **Voltage responsivity (rms)** (500 K, 10 Hz, 25 °C, without filter/window) min 80,000 V/W
- **Noise density (rms)** (10 Hz, BW 1 Hz, 25 °C) max 55 $\mu$V/√Hz
- **Detectivity** (500 K, 10 Hz, BW 1 Hz, 25 °C, without filter/window) typ $6.0 \times 10^8 \text{ cm}\sqrt{\text{Hz}/\text{W}}$
- **CMOS operational amplifier** nom OpAmp2
- **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 $V+ = +5 \text{ V}; V- = -5 \text{ V}$
- **Supply current (output load 1 MΩ)** max 150 $\mu$A
- **Offset voltage (25 °C; output load 1 MΩ)** -5 mV ... +5 mV
- **Optimal output load** nom 470 kΩ
- **Absolute output current** max ±0.4 mA
- **Operating / Storage temperature** nom -25 ... +85 °C

**IR filter**

Combinations of all InfraTec standard narrow band pass filters are available. Customized filters upon request.

**Filter sizes**

- Rectangular filters: (2.85 × 2.85) mm ±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

**Aperture window**

Selected by InfraTec for best channel filter matching

**Aperture window sizes**

- Rectangular filters: (9.00 × 9.00) mm ±0.05 mm
- Circular filters: not applicable
- Standard thickness: 0.50 mm ±0.1 mm

**Field of View**

- min 100° (with filter: silicon substrate; 0.5 mm thick and aperture: Si ARC; 0.5 mm thick)

This preliminary datasheet contains information regarding a product InfraTec is considering for production release. Due to this state all data are for information only.

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