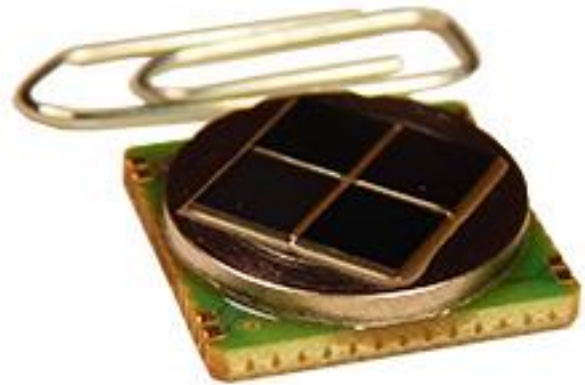


Thin Film Pyroelectric Quad Channel Flame Sensor

Introduction

The Pyreos thin film pyroelectric flame sensors offer exceptionally high responsivity, low microphonics and class leading thermal and electrical stability. This high performance current mode sensor achieves a signal to noise of ~10,000 at the signature of 10 Hz flicker range of a flame. The large aperture window and sensor dimensions provide a large field of view of over 110°. The sensor element is built into a low noise circuit that has internal CMOS Op-amps, with 10 GΩ feedback resistors outputting voltage signals centred around half the supply rail.



Note: Ensure that only the metal lid and filters is exposed in the end product; PCB section must be covered.

| Sensor Characteristics | |
|--|--------------------------------|
| Filter aperture | 4.9 mm x 4.9 mm |
| Element size | 1000 μm x 1000 μm |
| FoV | >110° |
| Op amp with 10 GΩ feedback resistor | |
| Responsivity ¹ | 150,000 V/W |
| D* ¹ | 3.5 x 10 ⁸ cm√Hz/ W |
| Noise (mean) ¹ | 70 uV√ Hz |
| Time Constant | ~12 ms (thermal) |
| ¹ 10 Hz, 500 K, room temperature, without window and optics | |

| Electrical Characteristics | |
|---|---|
| Max. Voltage | 8.0 V |
| Min. Voltage | 2.7 V |
| Output Voltage Normalised around mid-rail | |
| Microphonics | S _{vib} ~2 μV/ g at 10 Hz |
| Package | Surface mount LCC52 compatible |
| Operating Temperature | -40 to +85 °C |
| Storage Temperature | -40 to +110 °C |
| Filter Options | Combinations from Filters Available table |

Filters Available

| Filter Type | 3.375 μm (190nm) | 3.91 μm (90 nm) | 4.35 μm (600 nm) | 4.48 μm (620 nm) | 4.64 μm (180 nm) | 5.0 μm Long Pass | 5.5 μm Long Pass |
|-------------|------------------|-----------------|------------------|------------------|------------------|------------------|------------------|
| From (μm) | 3.28 | 3.86 | 4.05 | 4.17 | 4.55 | 5.0 | 5.5 |
| To (μm) | 3.48 | 3.96 | 4.65 | 4.79 | 4.73 | >15.0 | >15.0 |

Note: An additional window is required to provide high wavelength blocking and thermal shielding.

Order Information

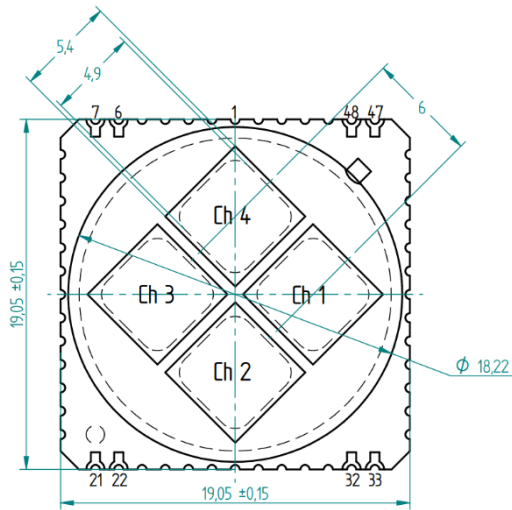
Please quote PY-ITV-QUAD-SM01 and your desired filter combination as per filter table.

Contact: sales@pyreos.com

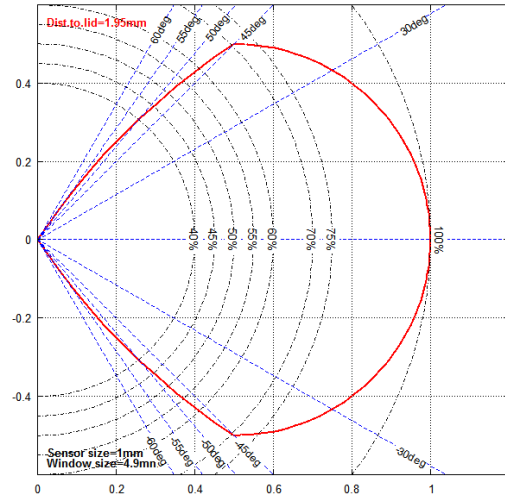
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Package Information

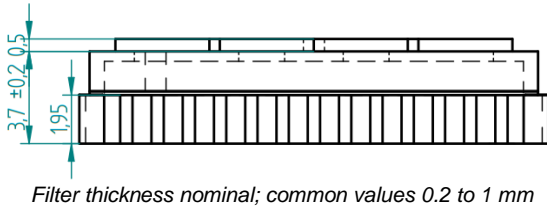
Top View



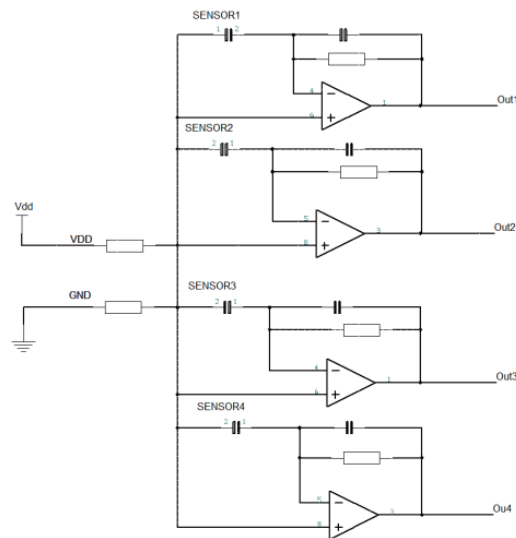
Field of View



Side View



Internal Schematic

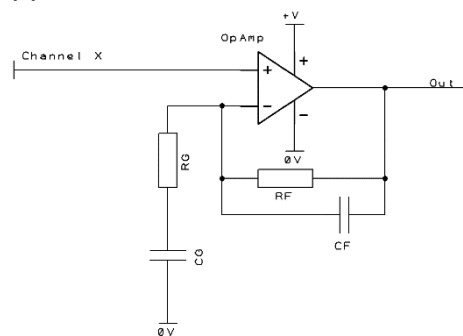
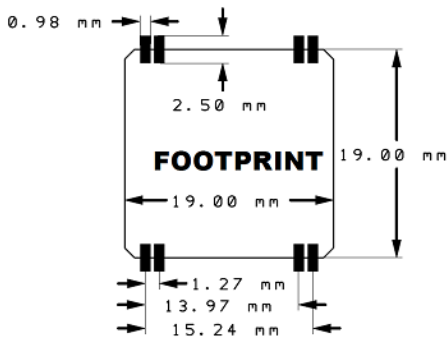


Pin Out

| # | Description | # | Description |
|----|-------------|----|--------------|
| 6 | Channel 4 | 32 | Channel 2 |
| 7 | Channel 3 | 33 | Channel 1 |
| 21 | Power+ | 47 | Power- (GND) |
| 22 | N/C | 48 | Power- (GND) |

Other pins not connected

Example Application Circuit



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