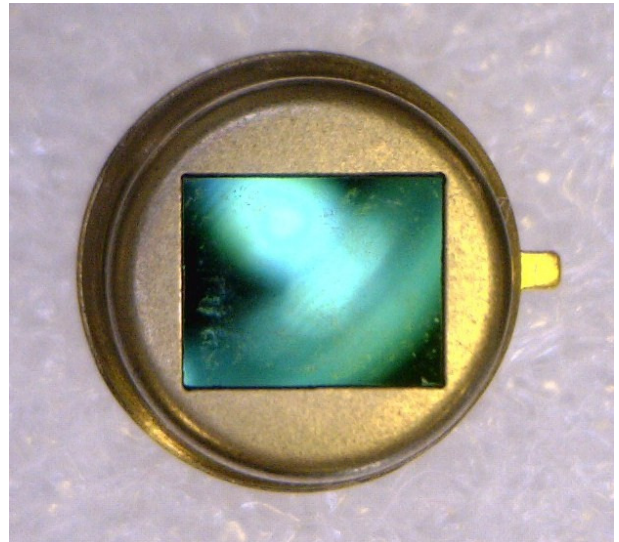


# PYREOS

## SINGLE CHANNEL PYROELECTRIC FLAME DETECTOR

### Introduction

The Pyreos thin film pyroelectric flame detectors offer exceptionally high responsivity, low microphonics and class leading thermal and electrical stability. This high performance detector achieves a signal to noise of ~10,000 at the signature 8-10Hz flicker range of a flame. The large aperture window and sensor dimensions provide a large field of view of over 90 degrees. The sensor element is built into a low noise circuit that has an internal cmos op amp, with a 10 G Ohm feedback resistor outputting an industry standard voltage mode signal. The standard pin-out makes it a simple replacement for leading voltage mode devices.



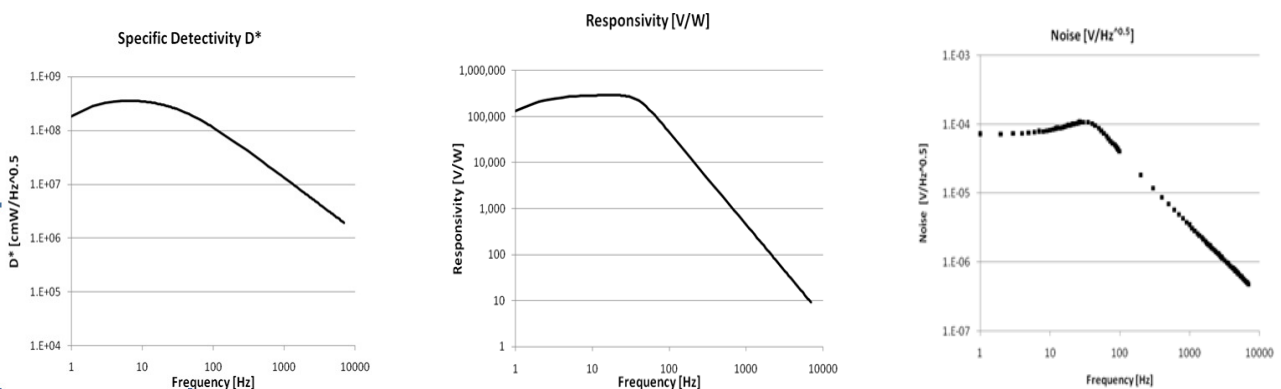
### Sensor Information

Filter aperture	5.2 mm x 4.2 mm
Element size	1000 μm x 1000 μm
FOV	> 90°
Op amp with 10G Ohm feedback resistor	
Time Constant	~12 ms
Responsivity <sup>1</sup>	<b>150,000 V/W</b>
D* <sup>1</sup>	<b>3.5 x 10<sup>8</sup> cm√Hz/ W</b>
Noise <sup>1</sup>	<b>70 uV/√Hz</b>

<sup>1</sup> 10Hz normalized without window & optics

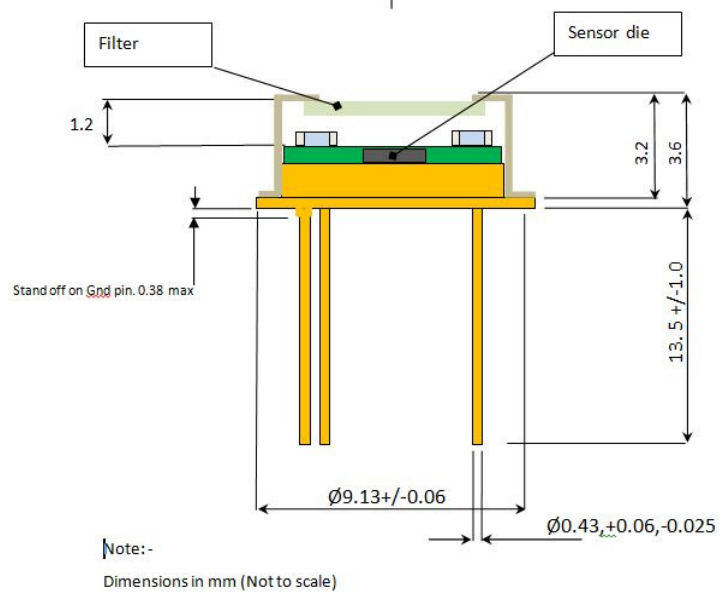
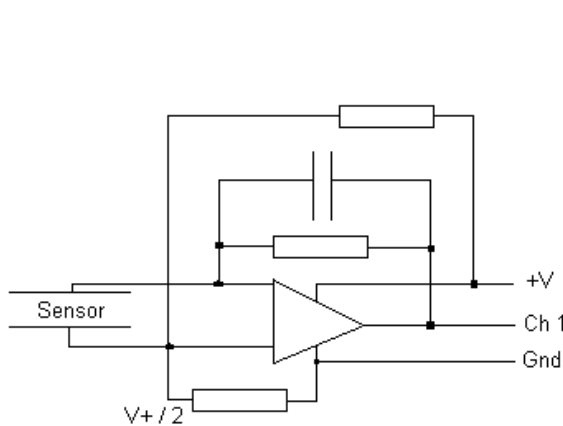
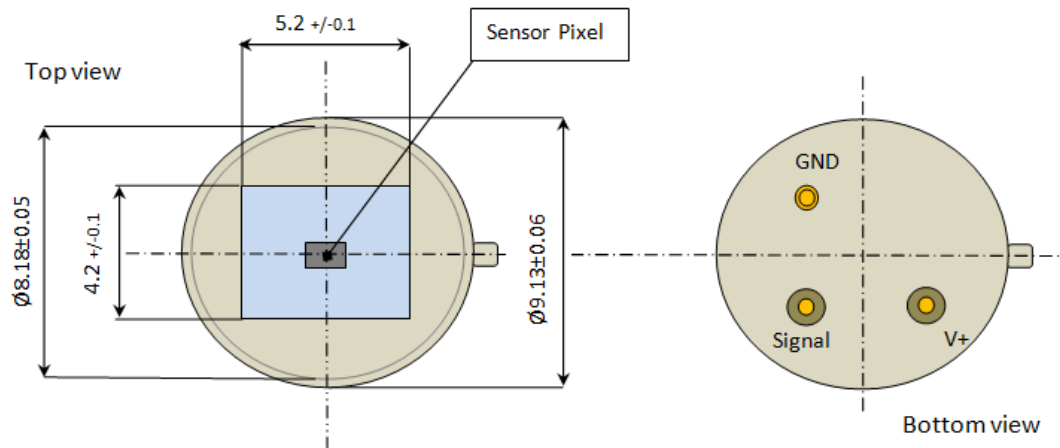
Max. Voltage	8.0V
Min. Voltage	2.7V
Output Voltage	Normalised around mid rail
Microphonics	S <sub>vib</sub> ~2 μV/ g at 10Hz
Package	TO39
Filter	5 standard flame types & custom builds
Operating Temperature -20 to +70 C	
Storage Temperature -20 to +110 C	

### Frequency Characteristics



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## Package Information & Circuit Diagram:



### Filters Available

For flame detection Pyreos can recommend a range of industry standard flame detection filters or provide filters to a customer's individual requests.

### Typical filter combination

Part number	PY0573	PY0574	PY0575	PY0576	PY0577
Filter Name	4.35 $\mu\text{m}$ band pass	4.64 $\mu\text{m}$ band pass	3.91 $\mu\text{m}$ band pass	5.5 $\mu\text{m}$ cut on	0.7-1.1 $\mu\text{m}$ NIR band pass
Cut on wavelength ( $\mu\text{m}$ )	4.05	4.55	3.86	5.5	0.7
Cut off Wavelength ( $\mu\text{m}$ )	4.65	4.73	3.96	-	1.1
Responsivity (V/W) (500K, 10Hz)	19,000	7,700	5,300	100,000	6,500

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