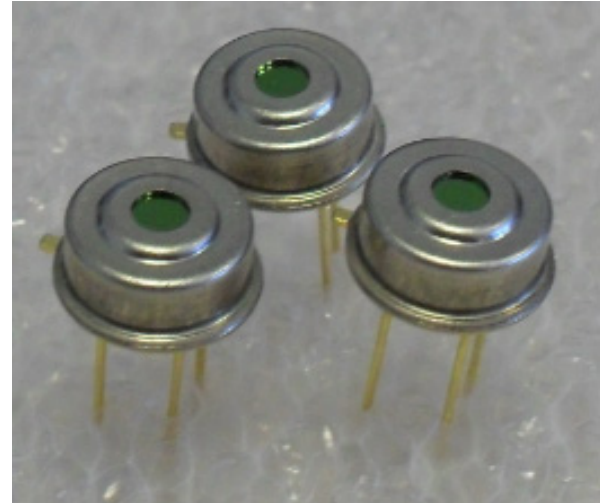


SINGLE CHANNEL PYROELECTRIC DETECTOR

Introduction

The Pyreos thin film pyroelectric gas 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 and offers a fast, stable response over a wide operating frequency range. 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.

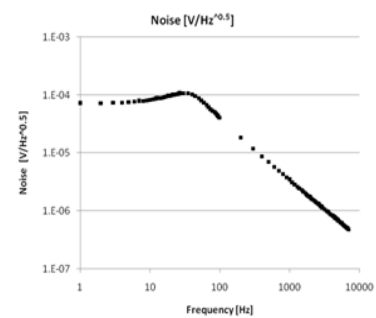
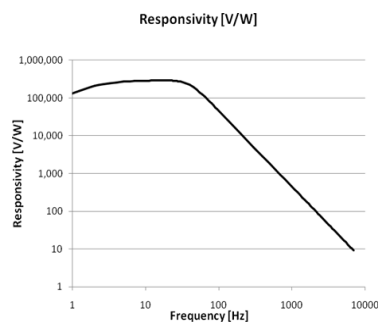
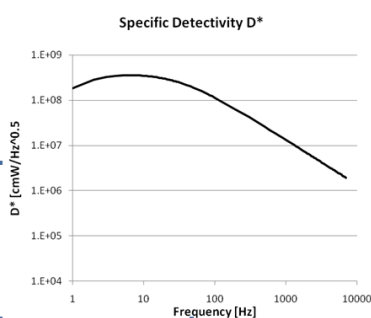


Sensor Information

Filter aperture	2.5 mm \varnothing
Element size	1000 μm x 1000 μm
Op amp with 10G Ohm feedback resistor	
Time Constant	~12 ms
Responsivity ¹	150,000 V/W
D* ¹	3.5 x 10⁸ cm$\sqrt{\text{Hz}}$/W
Noise ¹	60 $\mu\text{V}/\sqrt{\text{Hz}}$
¹ 10Hz normalized without window & optics	

Max. Voltage	8.0V
Min. Voltage	2.7V
Output Voltage	Normalised around mid rail
Microphonics	S _{vib} ~2 μV /g at 10Hz
Package	TO39
Filter	8 standard types & custom
Operating Temperature -20 to +70 C	
Storage Temperature -20 to +110 C	

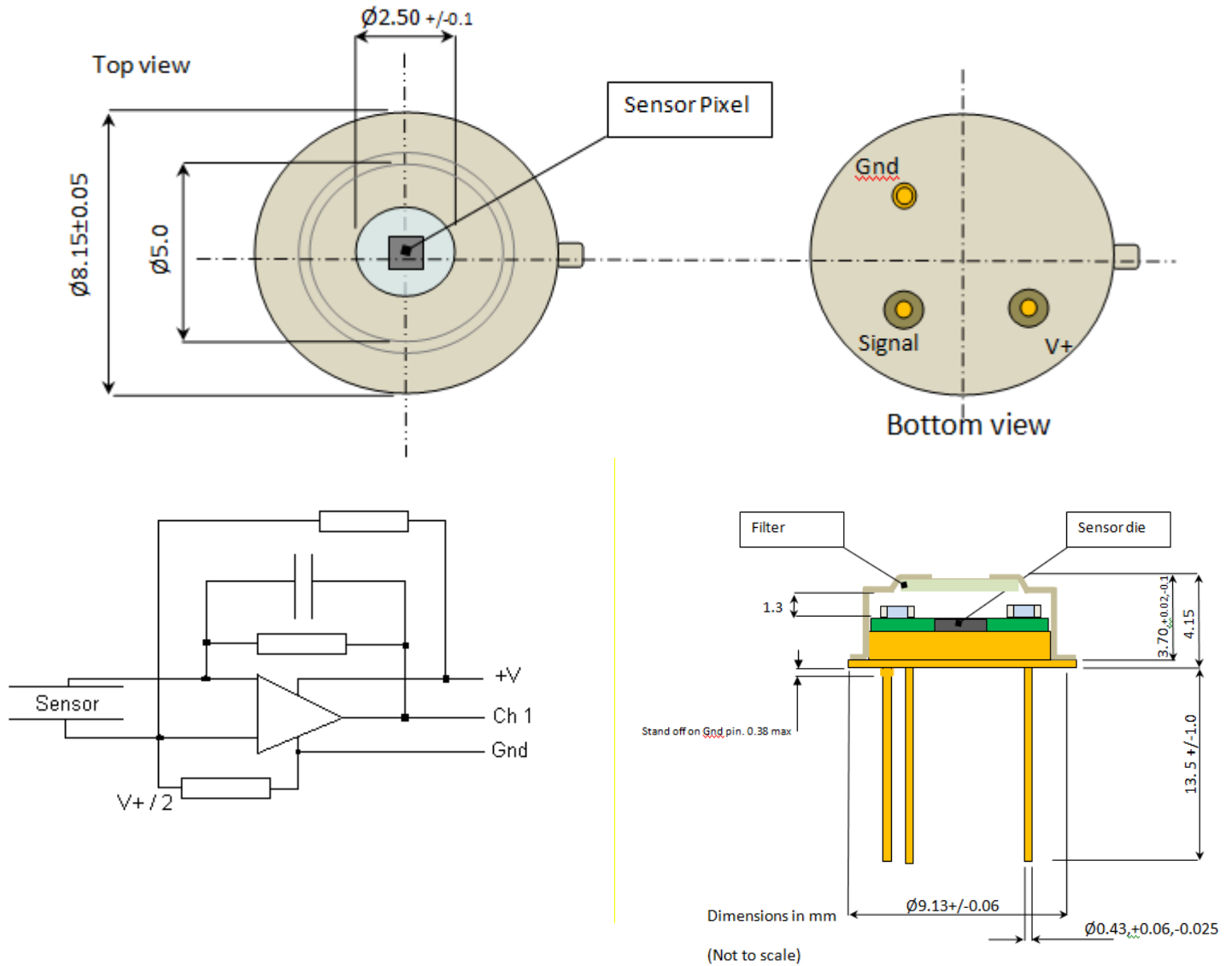
Frequency Characteristics



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Package Information & Circuit Diagram:



Filters Available

Pyreos has a range of standard filters available for all typical gases and can also access libraries of filters for a customized solution. Please ask your local sales contact for detailed filter transmission plots. Typical performance value for our standard CO₂ filter is shown.

Filter	CO ₂
Centre bandwidth	4.26 μ m
Responsivity V/W (500K, 10Hz)	~7500
Noise 10Hz μ V \sqrt Hz	~60

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