

PYREOS

MINIATURE FOUR CHANNEL PYROELECTRIC DETECTOR

Introduction

Unlike other pyroelectric materials, the Pyreos thin film pyroelectric sensors can be reduced in physical size and still provide high sensitivity with fast frequency operation, enabling this highly stable four element detector in a **TO5 package**. This current mode detector offers performance in a small footprint and up to 100 Hz data monitoring. The detector has internal cmos transimpedance amplifiers, with 10GΩ feedback resistors and 0.5pF capacitors within a current mode circuit. A range of IR filters are available, or we can fit customer supplied filters to make the product unique to your specific application requirements.



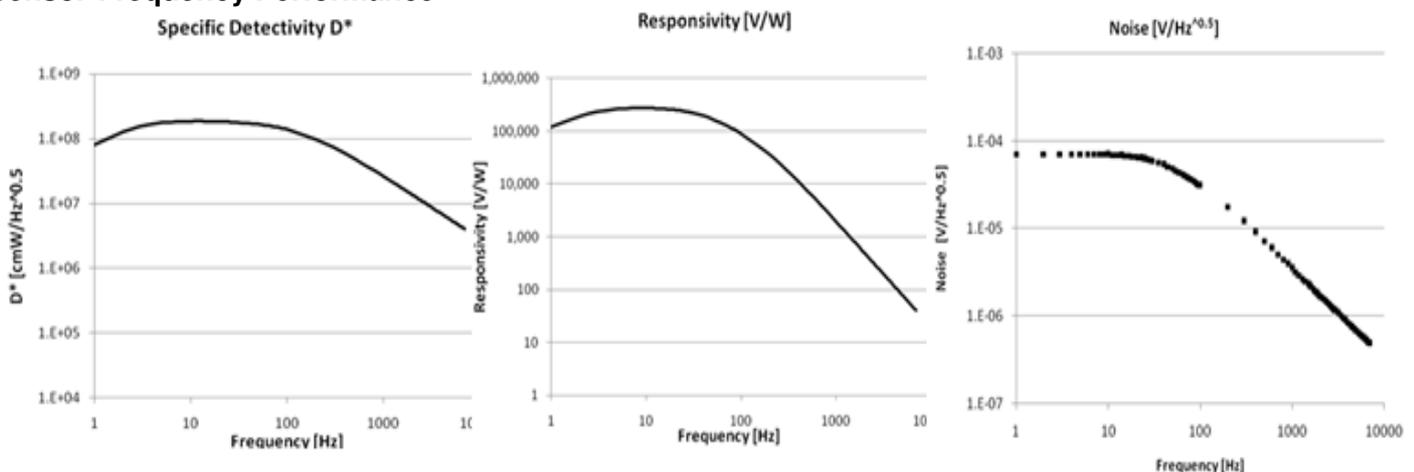
Sensor Information

Filter aperture	1.4 mm square
Element size	700 x 325 μm
Microphonics	$S_{vib} \sim 1 \mu V/g$ at 10Hz
Time Constant	~10 ms
Crosstalk	~<3%
Op amp with 10G Ohm feedback resistor	
Responsivity ¹	100,000 V/W
D^* ¹	$1.5 \times 10^8 cm\sqrt{Hz}/W$
Noise ¹	40 $\mu V/\sqrt{Hz}$

¹ 10Hz normalized without window & optics

Max. Voltage (+V)	5.0V ²
Min. Voltage (+V)	2.7V ²
Recommended Offset V	$(+V / 2)^2$
Offset V max	$(+V) - 0.1V^2$
Offset V min	0.1V ²
² With reference to Gnd	
Package	TO5
Filters	Customer choice
Operating Temperature -20 to +70 C	
Storage Temperature -20 to +110 C	

Sensor-Frequency Performance



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