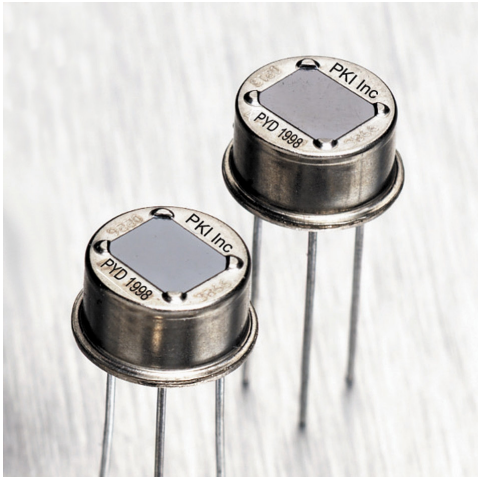
SENSOR SOLUTIONS

DATASHEET

DigiPyro™
Digital Dual Element Pyrodetector
PYD 1998



World's first digital output pyrodetector provides significantly improved technical performance. The new DigiPyro™ is truly setting the digital standard in motion detection.

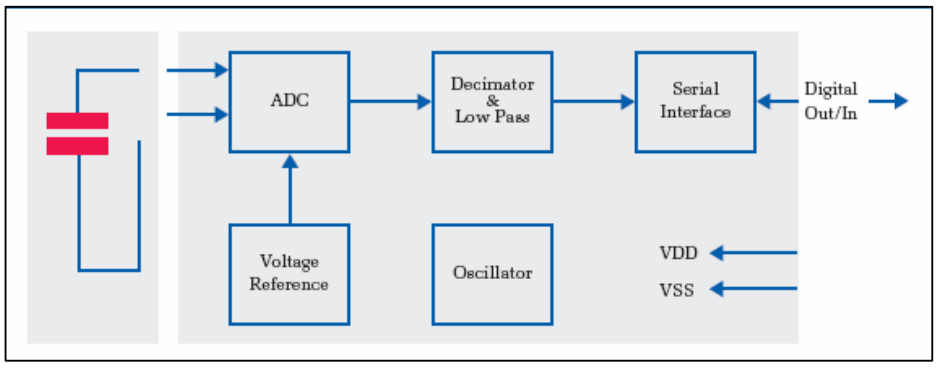
Overview

The DigiPyro™, PYD 1998, is the first within a new family of digital pyroelectric infrared detectors, brought to you from PerkinElmer.

It combines the time-proven, ceramic dual element configuration with a fully integrated A/D converter. An internal clock and control unit enable the PYD 1998 digital output pyrodetector to open a dialog with any outside microprocessor without additional components. The PYD 1998 is offered in a standard three-pin TO-5 housing.

The move from analog to digital technology enables the DigiPyro to deliver a number of advantages including space savings from fewer components and significantly improved EMI immunity.

The PYD 1998's fully digital, integrated processing technology continues the high quality standard tradition that customers have come to rely upon with PerkinElmer's analog pyrodetectors. With the introduction of the DigiPyro, PYD 1998, PerkinElmer is making a real step-change in motion detection.



Features and Benefits

- Digital output pyrodetector
- Dual element configuration
- TO-5 metal housing with 3 leads
- Extremely low RF sensitivity (PSRR improved by roughly 30 dB)
- Direct coupling of detector signals to a µP, which simplifies intelligent digital signal processing
- Wide frequency range
- Fast response time: easy bandpass management
- Automatic out-of-range correction
- Reduced space requirements
- RoHS compliant

Applications

- Motion detection for consumer comfort and safety
- Intrusion alarm passive infrared

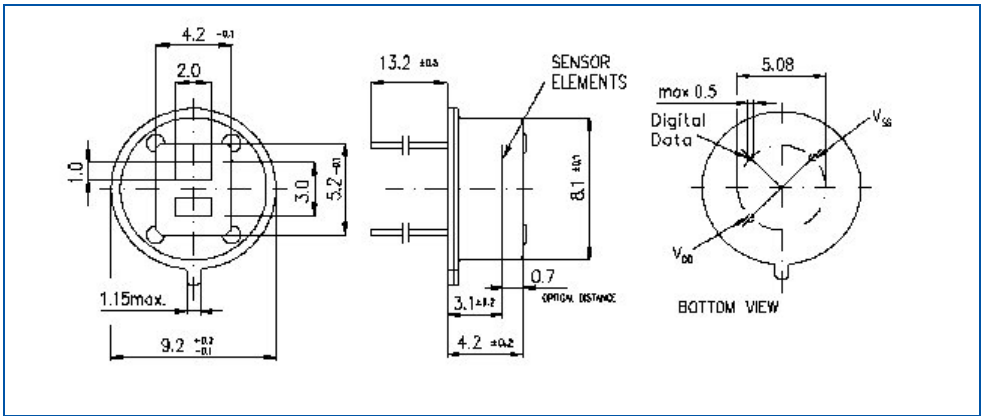
PerkinElmer® precisely.

Characteristics

Parameter	Min	Typ	Max	Unit	Remark
Responsivity	3.3	4.0		kV/W	(= 508 Digit/µW)
Noise			50	µVpp	(= 8 Digit)
Operating Voltage	3.5	5	5.5	V	VDD
Supply Current		30	40	µA	IDD, VDD = 5
Field of View		100		Degree	
Operating Temperature	-40		+85	°C	Non Permanent
ADC Resolution		14		Bit	Max. Count = 2^{14}
ADC Sensitivity	6.1	6.5	7	µV/Count	
ADC Offset	6200	8250	11000	Digit	
Input Low Voltage			20	% Vdd	
Input High Voltage	80			% Vdd	
Pull Up / Down Current	220	280	350	µA	Input to V_{ss} / V_{dd}
Data Setup Time	25			µs	ts
LPF Cut-Off Frequency		10		Hz	
Internal Clock Frequency	60	70	90	kHz	

All data are measured at room temperature.

Mechanical Dimensions



PIN Layout.
All measurements are in mm.

DigiPyro Application Kit

PerkinElmer Optoelectronics has designed an Application Kit that helps customers perform their first measurements with the DigiPyro. It is easy to use and does not require specialized technical know how. Please contact us to receive additional information on how to obtain the Application Kit.

All values are nominal; specifications subject to change without notice.

Ordering Information:
Please contact your Customer Support team and refer to the part number PYD 1998 (3522).

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