Digital Pyrodetector
For Battery Operated Applications

PYD 1688, PYD 1698 – Low Power *DigiPyro*®

Target Applications
• Intrusion Alarm, wireless
• Battery operated Motion Detection

Features and Benefits
• Wake up/ Sleep Mode
• Low power consumption
• Band pass included
• Pulse count option

Product Description

The LowPower DigiPyro® is our latest introduction addressing the rquirements of further reduced power consumption. With its further reduced current requirement at 3V supply the PYD 16 series offers new programmable features: The Wake-up/Sleep mode enables to save unit power, making it ideal for battery operated motion detection applications.

Continuous motion sensing, signal processing and event/motion detection is handled by the Low-Power DigiPyro while the hosting microcontroller can be set into a power saving mode. Only upon detection of a motion per its programmed settings, the LowPower DigiPyro signalizes the microcontroller to wake up.
Further options are selectable pulse count and electrical band pass.
The PYD 1688 /PYD 1698 include Dual Element Pyroelectric Detector design and the digital signal processor, all built into a TO-5 housing..
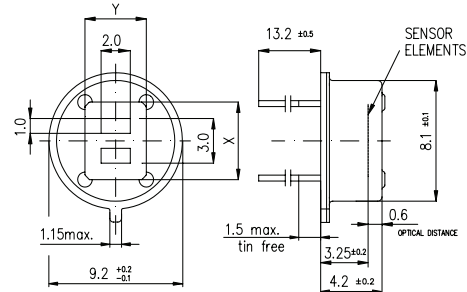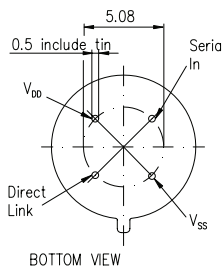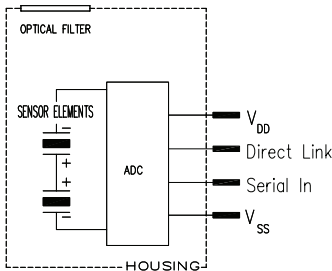
PYD 1688 and PYD 1698						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Remarks
Responsivity		3,3	4,0		kV/W	f = 1 Hz
Match			10		%	
Noise			20	78	μV_{pp}	
Field of View, vertical		PYD 1688: 95°	PYD 1698: 110°			unobstructed
Field of View, horizontal		PYD 1688: 90°	PYD 1698: 110°			unobstructed
Mechanical Data						
Window size x		PYD 1688: 4,6	PYD 1698: 5,2		mm	
Wiindow size y		PYD 1688: 3,4	PYD 1698: 4,2		mm	
Operation Data						
Operating Voltage	V_{DD}	2,5	3,3	3,6	V	
Supply Current	I_{DD}		3		μA	V_{DD} = 3,3V, no load
ADC Data						
ADC Resolution			14		Bits	Max Count = $2^{14} - 1$
PIR ADC Sensitivity			6,5			μV/Count
Output Range				$2^{14} - 511$	Counts	
LPF cutoff frequency	f_1		7		Hz	
HPF cutoff frequency	f_2		0,44		Hz	