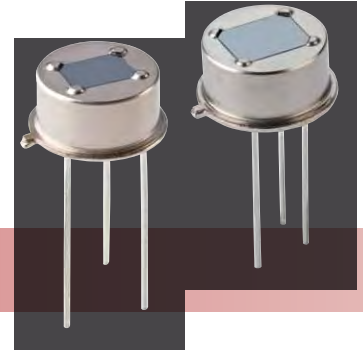


# Digital, Dual-Element Pyros For Motion Sensing



## PYD 1788, PYD 1798 – DigiPyro®

### Applications

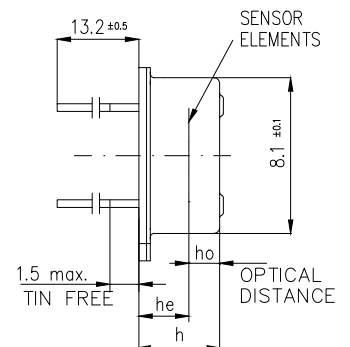
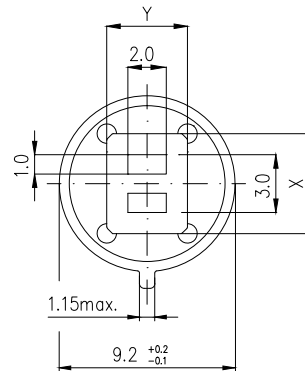
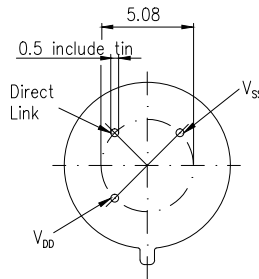
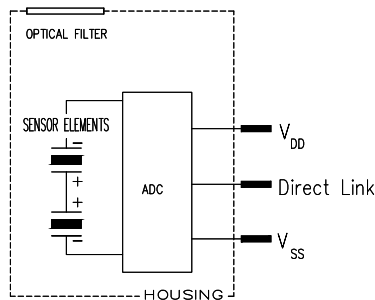
- Passive Intrusion Alarms
- Automatic Light Switching
- Automatic Lamps

### Features and Benefits

- TO-5 metal housing
- Digital "Direct Link"
- Different window sizes
- Excellent EMI protection

### Product Description

The DigiPyro® detector range in TO-5 housings includes several Dual-Element models with different window sizes. The element configurations are identical, along with their internal electronic circuits. The PYD 1788 is a lower-cost version with standard window, while the PYD 1798 model offers better White Light Immunity (WLI) performance and Field of View. Both the PYD 1788 and PYD 1798 models include a built-in temperature reference. The Output signals are communicated in one digital bit stream of 2x14 bit, output via a single wire "Direct Link" connection to a suitable host microprocessor.



## PYD 1798 and PYD 1788

Parameter	Symbol	PYD 1798	PYD 1788	Unit	Remarks
Responsivity, min.	$R_{min}$	3.3	3.3	kV/W	$f = 1 \text{ Hz}$
Responsivity, typ.	R	4	4	kV/W	$f = 1 \text{ Hz}$
Match, max.	$M_{max}$	10	10	%	
Noise	$N, N_{max}$	78/20	78/20	$\mu V_{pp}$	
Field of View, vertical	FoV	110°	95°		unobstructed
Field of View, horizontal	FoV	110°	90°		unobstructed
WLI		***	**		PKI tester
Height	h	4.2	4.2	mm	
Optical Element Location	he/ho	3,1 / 0,7	3,1 / 0,7	mm	
Filter Size	X / Y	5,2 / 4,2	4,6 / 3,4	mm	
<b>Digital Data</b>					
Operating Voltage	$V_{DD}$	2,7...3,6	2,7...3,6	V	
Supply Current	$I_{DD}$	10	10	$\mu A$	$V_{DD}=3,3V$
	$I_{DDmax}$	15	15	$\mu A$	$V_{DD}=3,3V$
Serial Interface Update Time	$t_{REP}$	2 / 13	2 / 13	ms	speed / interrupt
ADC Resolution		14	14	Bits	
Output Data Format		2 x 14	2 x 14	Bits	MSB first
ADC Sensitivity		6,7	6,7	$\mu V/count$	
ADC Output Offset		7000...9200	7000...9200	counts	
ADC Output Offset, typ.		8192	8192	counts	