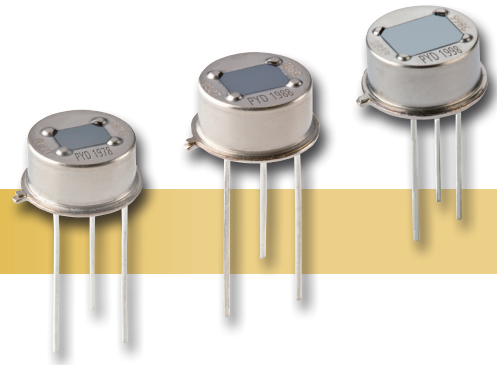


# DIGITAL DUAL ELEMENT PYROS FOR MOTION SENSING



## PYD 1788, PYD 1798 – DigiPyro®

### Applications

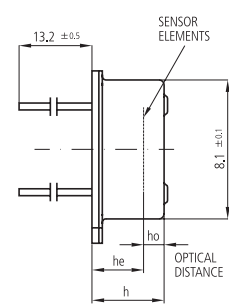
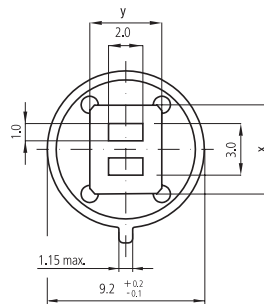
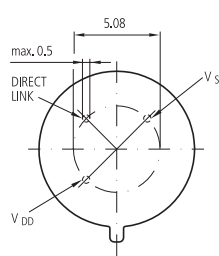
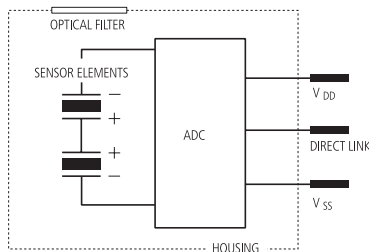
- Passive intrusion alarm
- Auto light switch
- Auto lamps

### 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 housing includes 3 variations of Dual Element types, each with a different window size. The element configurations are identical, as well as the internal electronic circuits. Whereas the PYD 1778 represents the lower-cost version with a small window, the PYD 1798 is provided as the superior type in terms of White Light Immunity (WLI) performance and field of view. The output signals are communicated in one 15-bit digital bit stream output via a single wire “direct link” connection to a suitable host microprocessor.



All dimensions in mm

## PYD 1788, PYD 1798 – DigiPyro®

Parameter	Symbol	PYD 1798	PYD 1788	Unit	Remark
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	$\mu\text{V}_{pp}$	unobstructed
Field of view, horizontal	FoV	110°	95°		unobstructed
Field of view, vertical	FoV	110°	90°		Excelitas tester
WLI		***	**		
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	$\mu\text{A}$	$V_{DD} = 3.3 \text{ V}$
	$I_{DDmax}$	15	15	$\mu\text{A}$	$V_{DD} = 3.3 \text{ V}$
Serial interface update time	$t_{REP}$	2/13	2/13	ms	speed/interrupt
ADC resolution		14	14	Bits	
Output data format		2x14	2x14	Bits	MSB first
ADC sensitivity		6 ... 7	6 ... 7	$\mu\text{V}/\text{count}$	
ADC output offset		7000 ... 9200	7000 ... 9200	Counts	
ADC output offset, typ.		8192	8192	Counts	

\* Standard, \*\* Improved, \*\*\* Excellent