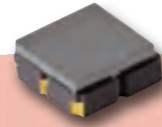


SMD Dual-Element Pyro And DigiPyro®

For Simple Motion Sensing



PYD 5190 – small Dual Element
PYD 5790 – small Dual Element DigiPyro®

Target Applications

- Energy conservation in TV and Monitors
- Mobile phone power on

Features and Benefits

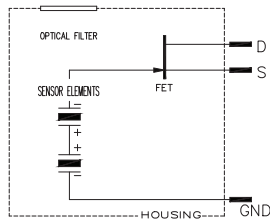
- MSL 1
- SMD housing
- Analog FET output
- DigiPyro with Direct Link Interface
- Especial designed Fresnel lens available

Product Description

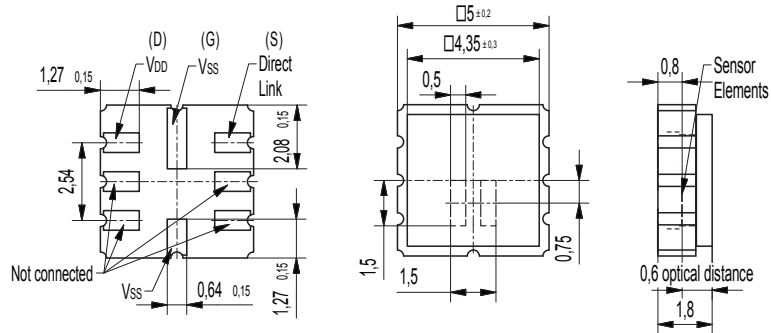
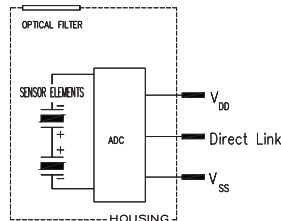
The PYD 5190 features a tiny Dual Element Pyro in SMD form. Furthermore, with the PYD 5790 Excelitas extends the emerging DigiPyro® family to the SMD form factor. Both types are fit with a small pyroelectric elements of 0,7x1,5 mm size. As to the different dimensions of elements and housing, the SMD line is not designed for 1to1 replacement of TO housing versions. Whereas PYD 5190 offers standard FET analog output, PYD 5790 offers the Direct Link interface same as the PYD 1798 DigiPyro.

The small dimensions of the smd housing in connection with a reduced element size and spacing will enable customers to reduce the optical design and smaller motion detection for new applications.

PYD 5190



PYD 5790



PYD 5190 and PYD 5790

Main Parameter	Symbol	PYD 5790	PYD 5190	Unit	Remarks
Responsivity, min.	R_{min}	5,5	5,5	kV/W	$f = 1 \text{ Hz}$
Responsivity, typ.	R	10	8,5	kV/W	$f = 1 \text{ Hz}$
Match, max.	M_{max}	10	10	%	
Noise	N_{max}	200	200	μV_{pp}	0,4...10Hz/20°C
	N_{typ}	80	80	μV_{pp}	
Field of View, horizontal	FoV	133°	133°		unobstr.
Field of View, vertical		(76+33)°	(76+33)°		non symmetric, unobstr.
Source voltage		-	0,2 ... 1,55	V	47 K Ω , 20°C, $V_{DD}=10\text{V}$
Operating Voltage	V_{DD}	2,7...3,6	2,0...10	V	20°C
Supply Current	I_{DD}	10		μA	$V_{DD} = 3,3\text{V}$
	I_{DDmax}	15		μA	$V_{DD} = 3,3\text{V}$
Digital Data					
Sample Time	t_{SMPL}	2	-	ms	min.
ADC Resolution		14	-	Bits	max. Count = $2^{14}-1$
Output Data Format		2 x 14	-	Bits	
ADC Sensitivity		6...7,1	-	$\mu\text{V}/\text{count}$	
ADC Output Offset		6500 - 9800	-	counts	
ADC Output Offset, typ.		8192	-	counts	
Temperature Reference					
Gain (Temperature)	typ	80	-	Counts/K	-20°C to +80°C
Linearity		-5...+5	-	%	-20°C to +80°C
Filter, Signal Processing					
Digital Filter, cut off		10	-	Hz	