

Miniaturized, Dual-Element Pyrodetectors For Motion Sensing



PYD 5731 – DigiPyro® in TO-46 Housing

Applications

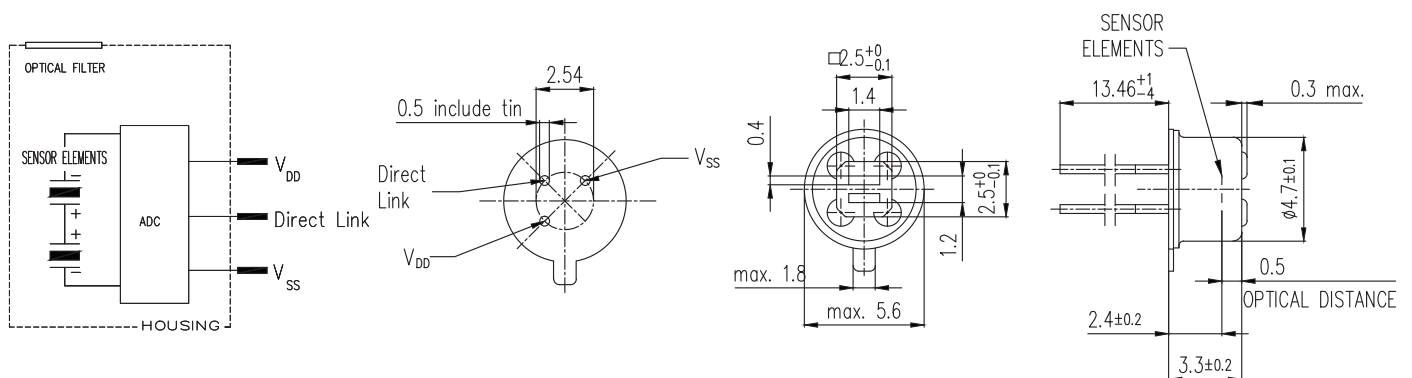
- Automatic Light Switch
- Wall Switches

Features and Benefits

- TO-46 metal housing
- Temperature reference output included
- DigiPyro® with Direct Link Interface

Product Description

This Pyrodetector features a miniaturized Dual Element Pyro in TO-46 housing. Furthermore, with the PYD 5731 Excelitas extends the emerging DigiPyro® family to miniaturized detector designs. The PYD 5731 offers the same Direct Link interface as the regular PYD 1798 DigiPyro, for output of Dual Element Pyro and additional temperature reference output. The small housing in connection with a reduced element size and spacing will enable customers to reduce the size of their optics and design smaller motion detection units.



PYD 5731

Main Parameter	Symbol	PYD 5731	Unit	Remarks
Responsivity, min.	R_{min}	8,5	kV/W	$f = 1 \text{ Hz}$
Responsivity, typ.	R_{typ}	11	kV/W	$f = 1 \text{ Hz}$
Match, max.	M_{max}	10	%	
Noise, max.	n_{max}	180	μV_{pp}	0,4...10Hz/ 20°C
Noise, typ.	n_{typ}	70	μV_{pp}	0,4...10Hz/ 20°C
Field of View, horizontal	FoV	99°		unobstr.
Field of View, vertical		88°		unobstr.
Operating Voltage	V_{DD}	2,7...3,6	V	
Supply Current	I_{DD} / I_{DDmax}	10 / 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}
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				
Digital Filter Cut off		10	Hz	refer to Application Note