

PYRODETECTORS FOR GAS MONITORING AND MEASURING

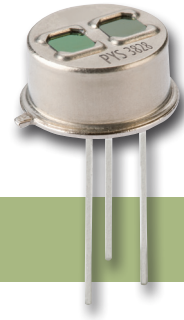
PYS 3828 – Dual Channel DigiPyro®

Applications

- Gas sensing and monitoring

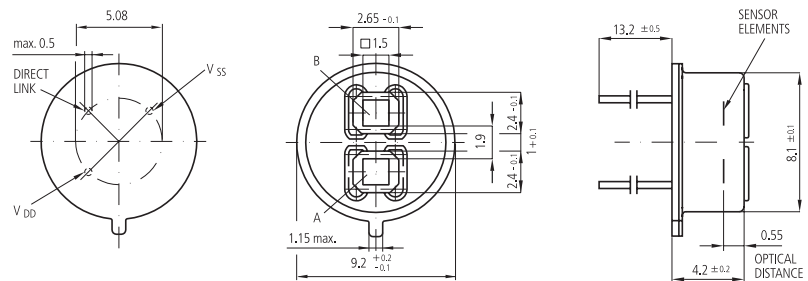
Features and Benefits

- Digital output
- Two optical channels
- Temp. reference channel
- Temperature compensated elements
- Selection of narrow band pass filters
- TO-5 metal housing

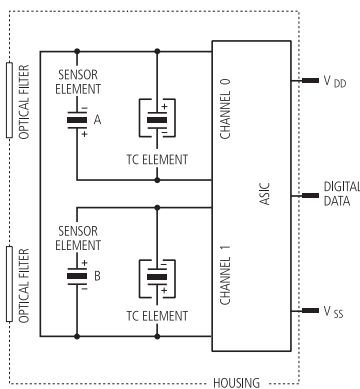


Product Description

Excelitas extends the family of DigiPyro® detectors to applications in gas sensing. This series includes a special triple channel version, in which two channels having their individual optical (narrow band) windows and an additional temperature reference signal are provided. All 3 channels are output in one 42-bit digital bit stream communicated via a single wire “direct link” interface to a suitable host microprocessor.



All dimensions in mm



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Main Parameter	Symbol	PYS 3828	Unit	Remark
Responsivity, min.	R _{min}	3.3	kV/W	f = 1 Hz
Responsivity, typ.	R	4	kV/W	f = 1 Hz
Match, max.	M _{max}	10	%	
Noise, max.		80	μV _{pp}	0.4 ... 10 Hz / 20° C
Field of view, horizontal	FoV	70°		Unobstructed
Field of view, vertical	FoV	85°		Unobstructed
Operating voltage	V _{DD}	2.7 ... 3.6	V	
Supply current	I _{DD}	12	μA	V _{DD} = 3.3 V
	I _{DDmax}	15	μA	V _{DD} = 3.3 V
Digital Data				
Serial interface update time	t _{REP}	2/14	ms	speed/interrupt
ADC resolution		14	Bits	Max. count = 2 ¹⁴ - 1
Output data format		3 x 14	Bits	
ADC sensitivity		6.1 ... 7	μV/count	
ADC output offset		7000 ... 9200	Counts	
ADC output offset, typ.		8192	Counts	
Temperature Reference				
Gain (temperature)		80	Counts/K	-20° C to +80° C
Linearity		-5 ... +5	%	-20° C to +80° C
Filter, Signal Processing				
Digital filter cut off		8	Hz	see note 1)

1) A digital bandpass filter is recommended to cut off output offset.