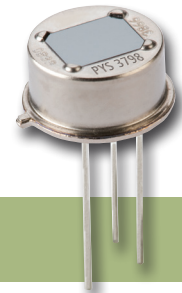


SINGLE ELEMENT PYROS FOR GAS MONITORING AND MEASURING



PYS 3798 – DigiPyro®

Applications

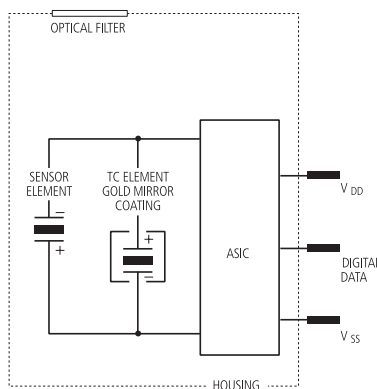
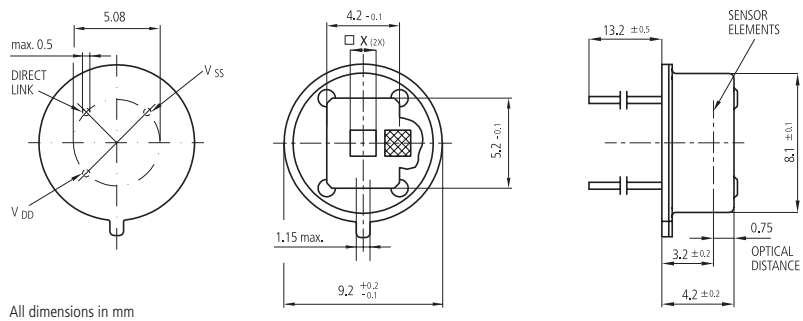
- Gas sensing and monitoring

Features and Benefits

- Digital output
- Internal temperature reference
- TO-5 metal housing
- Selection of narrow band pass filters

Product Description

Excelitas extends the family of DigiPyro® detectors to applications in gas sensing. The PYS 3798 is the digital equivalent to the analog LHi 807. It includes the additional temperature reference as a separate output. The two signals are presented in one 28-bit digital bit stream communicated via a single wire “direct link” interface to a suitable host microprocessor.



PYS 3798 – DigiPyro®

Main Parameter	Symbol	PYS 3798	Unit	Remark
Responsivity, min.	R_{min}	2.2	kV/W	$f = 1 \text{ Hz}$
Responsivity, typ.	R	3.5	kV/W	$f = 1 \text{ Hz}$
Match, max.	M_{max}	-	%	
Noise, max.		80	μV_{pp}	0.4 ... 10 Hz / 20° C
Field of view, horizontal	FoV	135°		Unobstructed
Field of view, vertical	FoV	122°		Unobstructed
Operating voltage	V_{DD}		V	
Supply current	I_{DD}	10	μA	$V_{DD} = 3.3 \text{ V}$
	I_{DDmax}	15	μA	$V_{DD} = 3.3 \text{ V}$
Digital Data				
Serial interface update time	t_{REP}	13	ms	speed/interrupt
ADC resolution		14	Bits	Max. count = $2^{14}-1$
Output data format		2 x 14	Bits	
ADC sensitivity		6 ... 7	$\mu\text{V}/\text{count}$	
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.