

# SINGLE ELEMENT PYROS FOR GAS MONITORING AND MEASURING



## PYS 3798 – DigiPyro®

### Applications

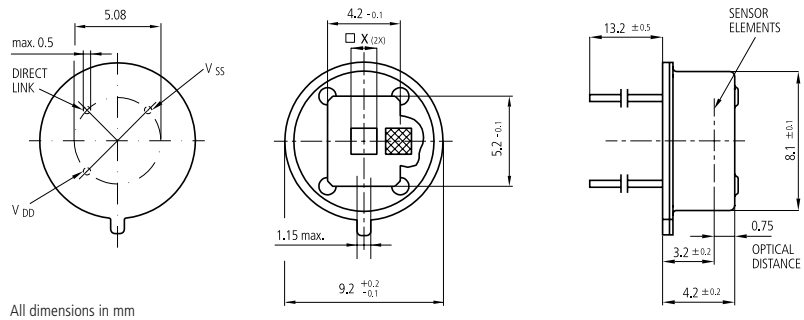
- Gas sensing and monitoring

### Features and Benefits

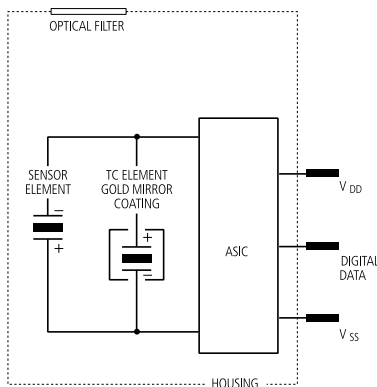
- Digital output
- Internal temperature reference
- TO-5 metal housing
- Selection of narrow band pass filters

### 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.



All dimensions in mm



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Main Parameter	Symbol	PYS 3798	Unit	Remark
Responsivity, min.	$R_{min}$	2.2	kV/W	f = 1 Hz
Responsivity, typ.	R	3.5	kV/W	f = 1 Hz
Match, max.	$M_{max}$	-	%	
Noise, max.		80	$\mu V_{pp}$	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	$I_{DDmax}$	15	$\mu A$	$V_{DD} = 3.3 V$
<b>Digital Data</b>				
Serial interface update time	$t_{REP}$	13	ms	
ADC resolution		14	Bits	Max. count = $2^{14}-1$
Output data format		2 x 14	Bits	
ADC sensitivity		6 ... 7	$\mu V/count$	
ADC output offset		7000 ... 9200	Counts	
ADC output offset, typ.		8192	Counts	
<b>Temperature Reference</b>				
Gain (temperature)		80	Counts/K	-20° C to +80° C
Linearity		-5 ... +5	%	-20° C to +80° C
<b>Filter, Signal Processing</b>				
Digital filter cut off		10	Hz	see note 1)

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