

Pyroelectric Low Noise Flame Detector PS1x3U10-A-D3.7

Pyroelectric one-channel current mode detector for flame detection with large active area and unipolar low noise circuit.

Active Area	1.65 x 1.65	mm ²
Aperture	Ø 3.7	mm ²
Mode	Current	
Time Constant t _{(0-63%) thermal}	typ. 62	ms
Time Constant t _{(0-63%) electrical}	typ. 0.02	ms
AC Sensitivity ^{1,2,3}	typ. 2000	V/W
Noise Density Voltage ¹	typ. 1.5	µV/Hz ^{1/2}
Noise Equivalent Power NEP ^{1,2,3}	typ. 7.5 x 10 ⁻¹⁰	W/Hz ^{1/2}
Specific Detectivity D* ^{1,2,3}	typ. 2.20 x 10 ⁸	cmHz ^{1/2} /W
Microphonic Voltage ¹	typ. 50	µV/g
Filling Gas	Kr	
Filters	It is recommended to use filters with a CWL of 4.3 µm or 5 µm. Customized filters on request. For more information please see document "infrared filters".	
Operation Voltage VDD+	+4.4...+16	VDC
Operation Current	max. 0.07	mA
Feedback Resistor	0.1	GOhm
Feedback Capacitor	200±50	fF
Operation Temperature	-25 ... +125	°C
Mass	~1	g
Housing	T039 (modified)	

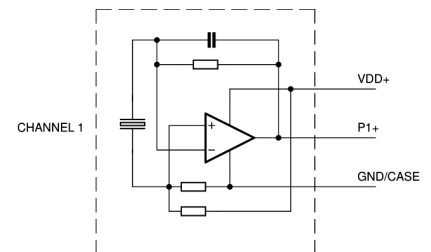
¹ at T_{amb}=25 °C, 10 Hz, band width 1 Hz

² Blackbody T=500 K; E=38 W/m²

³ on air without windows



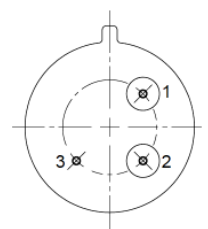
Equivalent Circuit



Pin Assignment

Bottom View

- Pin 1 VDD+
- Pin 2 Output P1+
- Pin 3 GND



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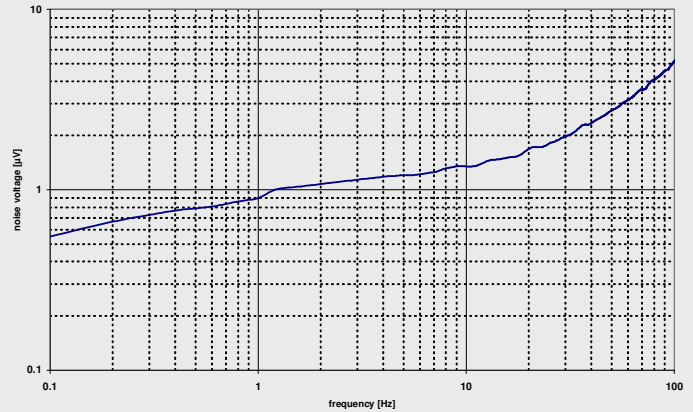
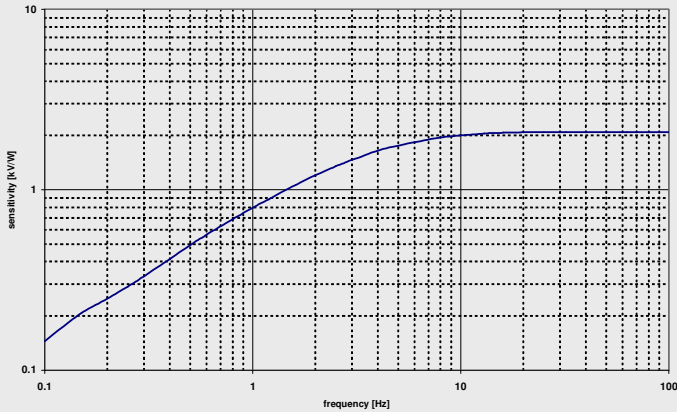
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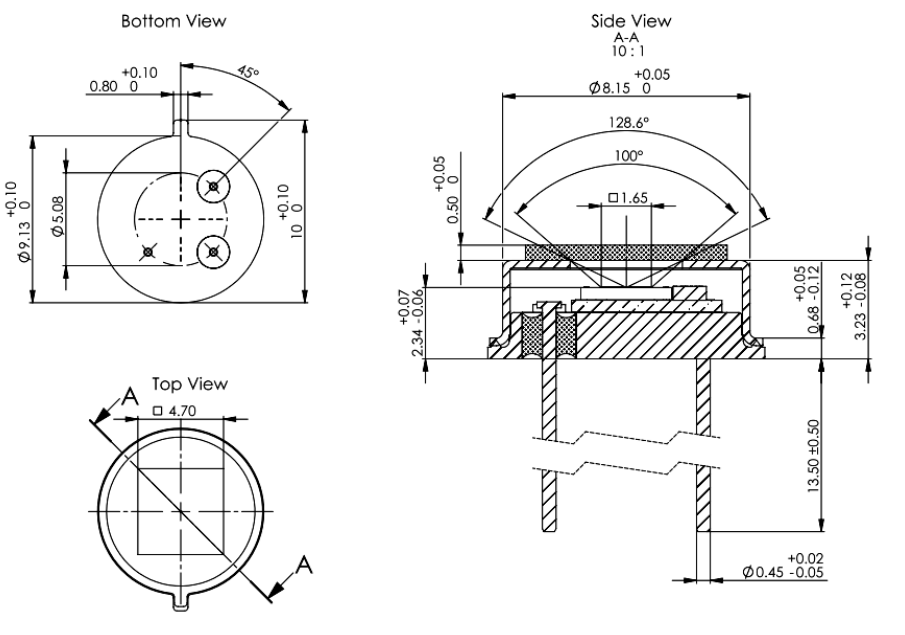
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Frequency Response



Housing



Ordering Information

PS1x3U10A-S1.5-Filling Gas (GG)-Filter (H)

e.g. PS1x3U10-A-S1.5-Kr-E1

Optional parts

IR-Source JSIR 350 - Fast IR emitter based on thin film technology
Art.-Nr. 6353.01-3.01

Evaluation Kit - For independent evaluation of emitters and detectors
Art.-Nr. 7206.01-A.00

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