

Pyroelectric Low Noise Flame Detector PS1x3U2-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 $t_{(0-63\%)} \text{ thermal}$	typ. 62	ms
Time Constant $t_{(0-63\%)} \text{ electrical}$	typ. 2	ms
AC Sensitivity ^{1,2,3}	typ. 275000	V/W
Noise Density Voltage ¹	typ. 105	$\mu\text{V}/\text{Hz}^{1/2}$
Noise Equivalent Power NEP ^{1,2,3}	typ. 3.82×10^{-10}	W/Hz ^{1/2}
Specific Detectivity D^* ^{1,2,3}	typ. 4.32×10^8	cmHz ^{1/2} /W
Microphonic Voltage ¹	typ. 4000	$\mu\text{V}/\text{g}$
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	10	GOhm
Feedback Capacitor	200±50	fF
Operation Temperature	-25 ... +125	°C
Mass	~1	g
Housing	T039 (modified)	

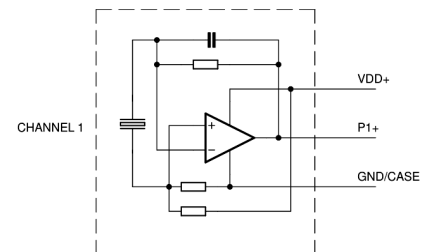
¹ at $T_{\text{amb}}=25^\circ\text{C}$, 10 Hz, band width 1 Hz

² Blackbody $T=500\text{K}$; $E=38\text{W}/\text{m}^2$

³ on air without windows



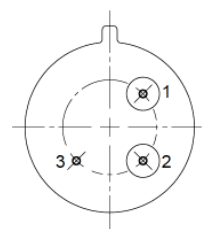
Equivalent Circuit



Pin Assignment

Bottom View

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



Micro-Hybrid Electronic GmbH

Heinrich-Hertz-Straße 8
D-07629 Hermsdorf

Tel +49 366 01 592 100
Fax +49 366 01 592 110

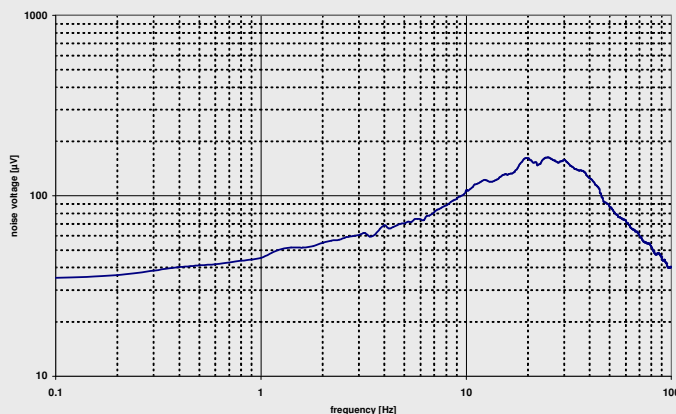
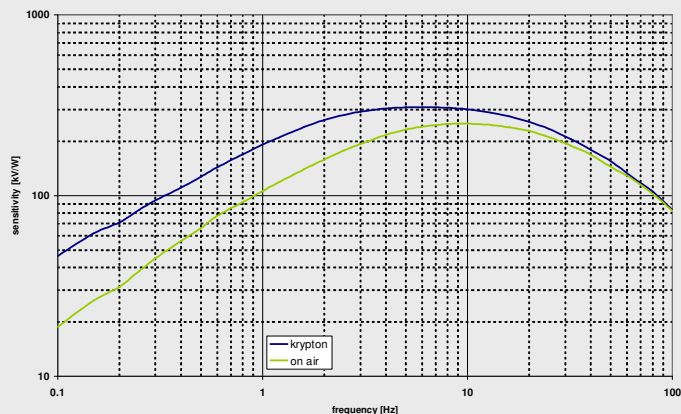
Email: infrared@micro-hybrid.de
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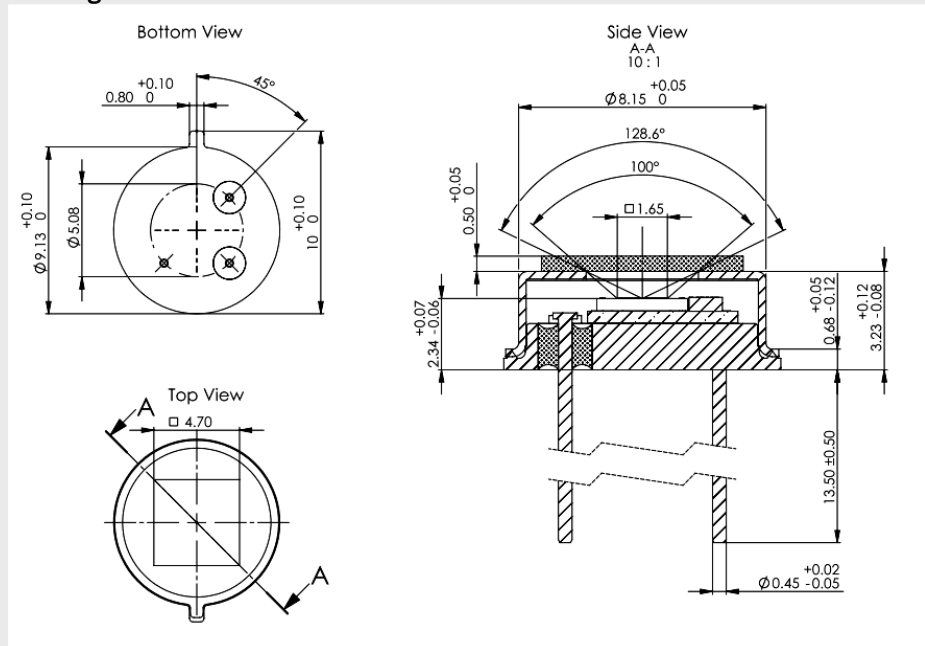
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Frequency Response



Housing



Ordering Information

PS1x3U2-A-S1.5-Filling Gas (GG)-Filter (H)

e.g. PS1x3U2-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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Tel +49 366 01 592 100
Fax +49 366 01 592 110

Email: infrared@micro-hybrid.de
Web: www.micro-hybrid.de