



One Channel Pyroelectric Detector PS1x4V1-A-S1.5

Pyroelectric one-channel voltage mode detector for NDIR gas analysis.

Active Area	1.15 x 1.15	mm ²
Aperture	1.5 x 1.5	mm ²
Mode	Voltage	
Time Constant $t_{(0-63\%)} \text{ thermal}$	typ. 32	ms
Time Constant $t_{(0-63\%)} \text{ electrical}$	typ. 2000	ms
AC Sensitivity ^{1,2,3}	typ. 725	V/W
Noise Density Voltage ¹	typ. 0.24	$\mu\text{V}/\text{Hz}^{1/2}$
Noise Equivalent Power NEP ^{1,2,3}	typ. 3.31×10^{-10}	W/Hz ^{1/2}
Specific Detectivity $D^* \sup{1,2,3}$	typ. 3.47×10^8	cmHz ^{1/2} /W
Microphonic Voltage ¹	typ. 50	$\mu\text{V}/\text{g}$
Filling Gas	Kr	
Filters	All Micro-Hybrid standard narrow band pass filters can be combined. Customized filters on request. For more information please see document "infrared filters"	
Drain Source Voltage	max. +18	VDC
External Load	47	kOhm
Offset Voltage	0.3 ... 1	V
Gate Resistor	100	GOhm
Operation Temperature	-25 ... +85	°C
Mass	~ 1	g
Housing	T039 (modified)	

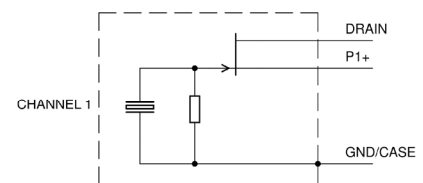
¹ at $T_{\text{amb}}=25 \text{ }^\circ\text{C}$, 10 Hz, band width 1 Hz

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

³ on air without windows



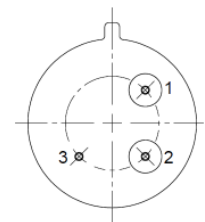
Equivalent Circuit



Pin Assignment

Bottom View

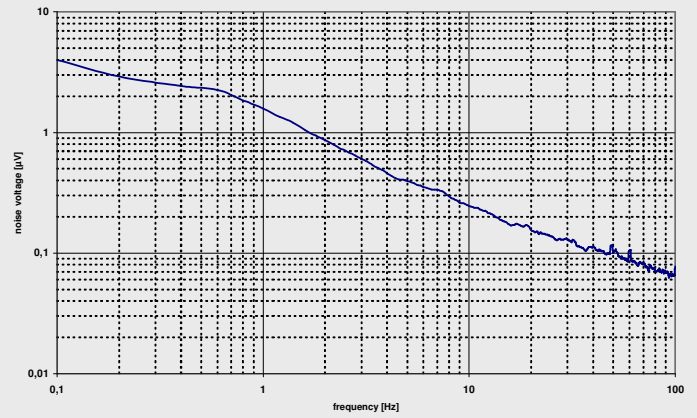
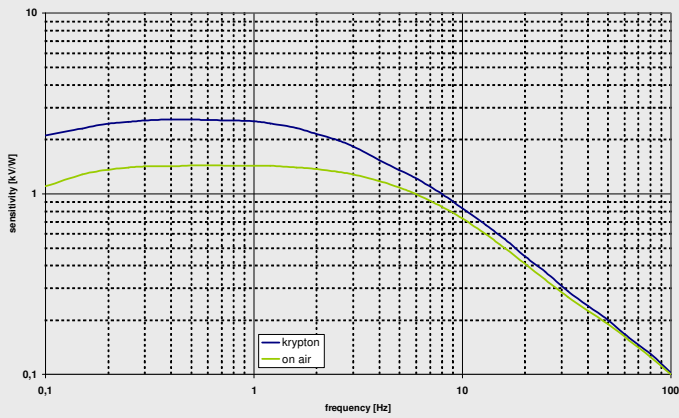
- Pin 1 Drain
- Pin 2 Output P1+
- Pin 3 GND



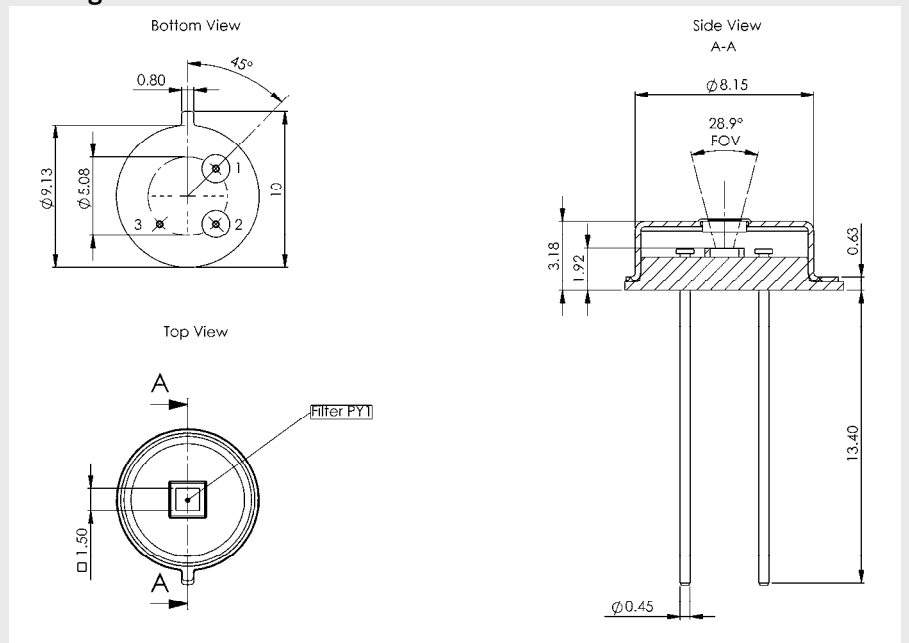
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Frequency Response



Housing



Ordering Information

PS1x4V1-A-S1.5-Filling Gas (GG)-Filters (H/H)

e.g. PS1x4V1-A-S1.5-Kr-E1/D1

Optional parts

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