



## 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 <sup>2</sup>
Aperture	1.5 x 1.5	mm <sup>2</sup>
Mode	Voltage	
Time Constant $t_{(0-63\%)} \text{ thermal}$	typ. 32	ms
Time Constant $t_{(0-63\%)} \text{ electrical}$	typ. 2000	ms
AC Sensitivity <sup>1,2,3</sup>	typ. 725	V/W
Noise Density Voltage <sup>1</sup>	typ. 0.24	$\mu\text{V}/\text{Hz}^{1/2}$
Noise Equivalent Power NEP <sup>1,2,3</sup>	typ. $3.31 \times 10^{-10}$	W/Hz <sup>1/2</sup>
Specific Detectivity $D^* \sup{1,2,3}$	typ. $3.47 \times 10^8$	cmHz <sup>1/2</sup> /W
Microphonic Voltage <sup>1</sup>	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)	

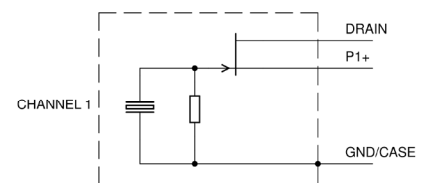
<sup>1</sup> at  $T_{\text{amb}}=25 \text{ }^\circ\text{C}$ , 10 Hz, band width 1 Hz

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

<sup>3</sup> on air without windows



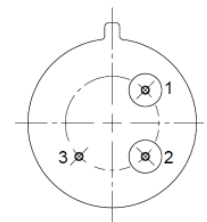
### Equivalent Circuit



### Pin Assignment

#### Bottom View

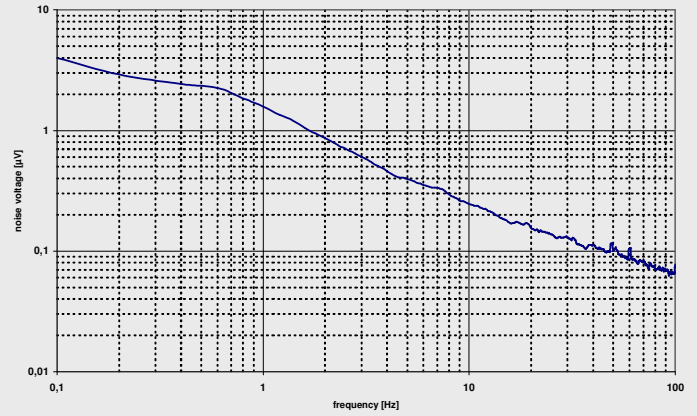
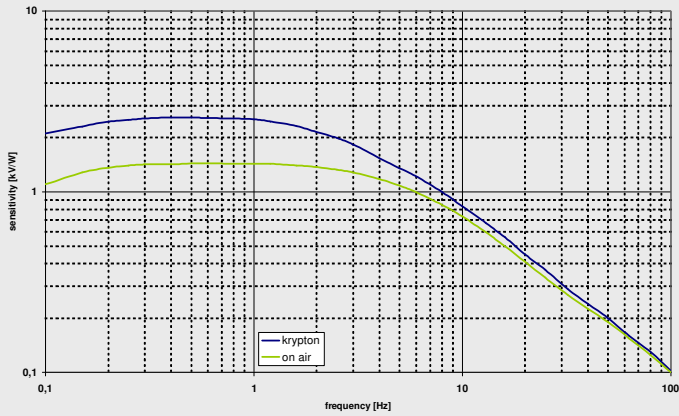
- Pin 1 Drain
- Pin 2 Output P1+
- Pin 3 GND



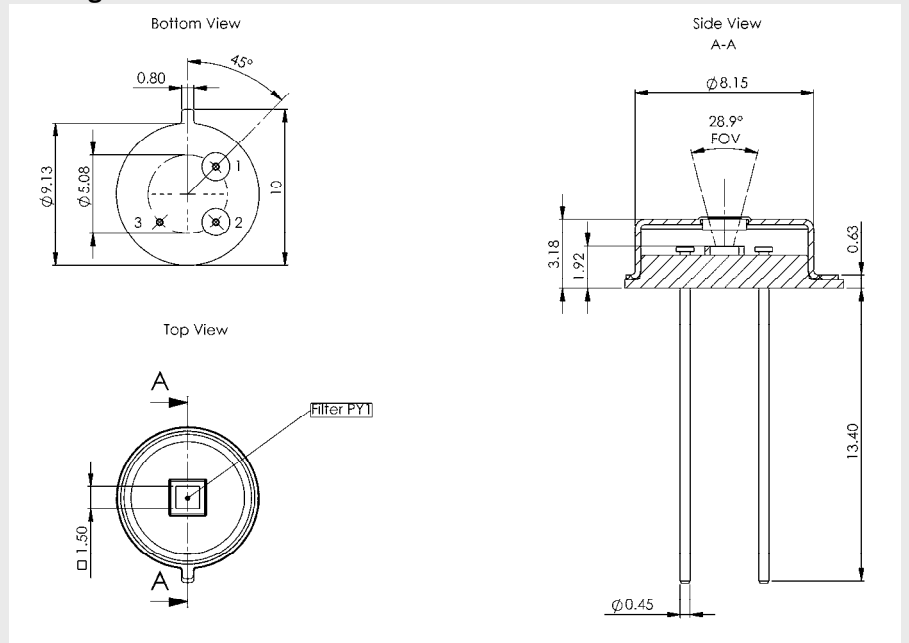


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## Frequency Response



## 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