



Four Channel Pyroelectric Detector PS4x4V1-A-S1.5

Preliminary

Pyroelectric quad-channel voltage mode detector with **Pyropile®** chip for NDIR gas analysis.

Active Area	4 x (1.15 x 1.15)	mm ²
Aperture	4 x (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 $D^* \text{ }^{1,2,3}$	typ. 3.47×10^8	$\text{cmHz}^{1/2}/\text{W}$
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 $T=500 \text{ K}$; $E=38 \text{ W}/\text{m}^2$

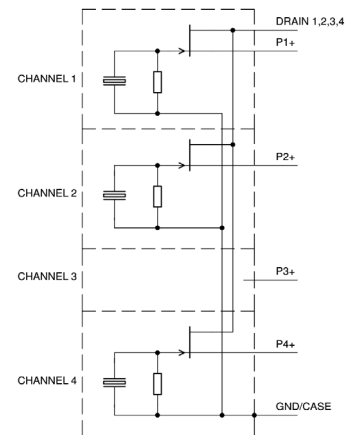
³ on air without windows



MICRO-HYBRID



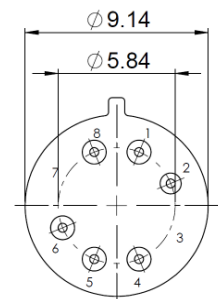
Equivalent Circuit



Pin Assignment

Bottom View

- Pin 1 Output P4+
- Pin 2 Mass (GND)
- Pin 4 Output P1+
- Pin 5 Output P2+
- Pin 6 Output P3+
- Pin 8 Drain

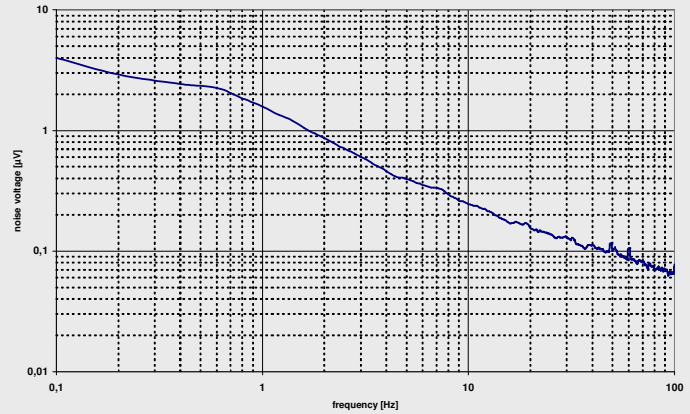
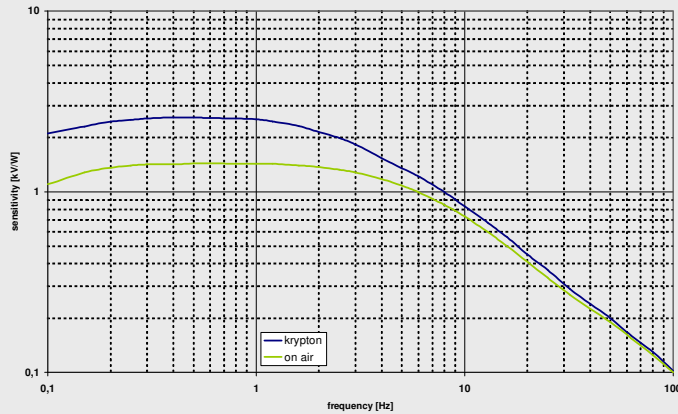


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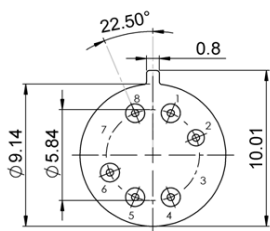


Frequency Response

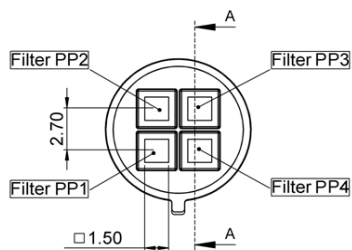


Housing

Bottom View



Top View



Optional parts

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

Ordering Information

PS4x4V1-A-S1.5-Filling Gas (GG)-Filters (H/H/H/H)

e.g. PS4x4V1-A-S1.5-Kr- D1/E1/G1/H1