



## Two Channel Pyroelectric Low Noise Detector PS2x1C2-A-S1.5

Pyroelectric dual-channel current mode detector for NDIR gas analysis with bipolar low noise circuit.

Active Area	2 x (0.8 x 0.8)	mm <sup>2</sup>
Aperture	2 x (1.5 x 1.5)	mm <sup>2</sup>
Mode	Current	
Time Constant $t_{(0-63\%)}^{\text{thermal}}$	typ. 17	ms
Time Constant $t_{(0-63\%)}^{\text{electrical}}$	typ. 2.7	ms
AC Sensitivity <sup>1,2,3</sup>	typ. 175000	V/W
Noise Density Voltage <sup>1</sup>	typ. 50	$\mu\text{V}/\text{Hz}^{1/2}$
Noise Equivalent Power NEP <sup>1,2,3</sup>	typ. $2.86 \times 10^{-10}$	W/Hz <sup>1/2</sup>
Specific Detectivity $D^*$ <sup>1,2,3</sup>	typ. $2.8 \times 10^8$	$\text{cmHz}^{1/2}/\text{W}$
Microphonic Voltage <sup>1</sup>	typ. 2500	$\mu\text{V}/\text{g}$
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"	
Operation Voltage VDD+	$\pm 2.2 \dots \pm 8$	VDC
Operation Current	max. 0.07	mA
Feedback Resistor	10	GOhm
Feedback Capacitor	$275 \pm 55$	fF
Operation Temperature	-25 ... +85	°C
Mass	~1	g
Housing	T039 (modified)	

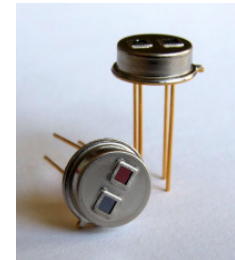
<sup>1</sup> at  $T_{\text{amb}}=25^\circ\text{C}$ , 10 Hz, band width 1 Hz

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

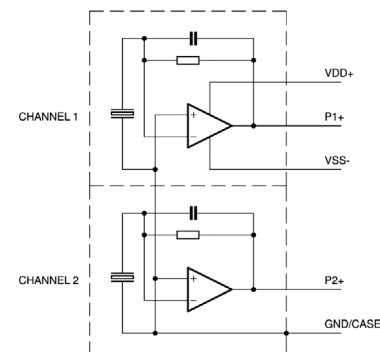
<sup>3</sup> on air without windows



**MICRO-HYBRID**



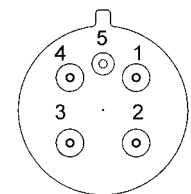
### Equivalent Circuit



### Pin Assignment

#### Bottom View

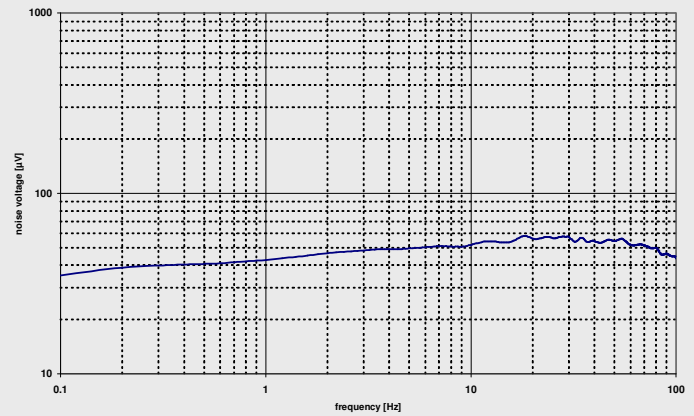
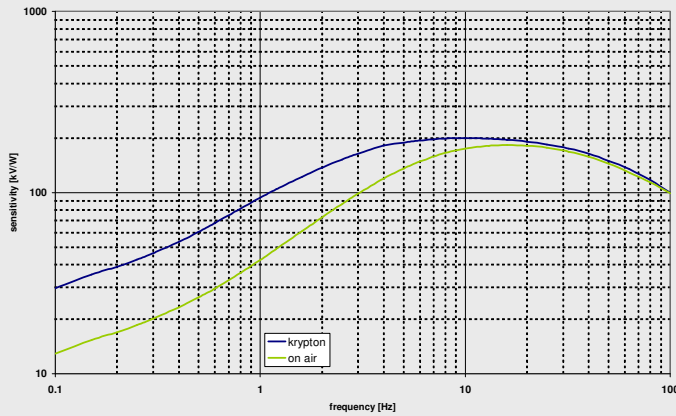
- Pin 1 Output P1+
- Pin 2 VDD+
- Pin 3 Output P2+
- Pin 4 VSS-
- Pin 5 GND



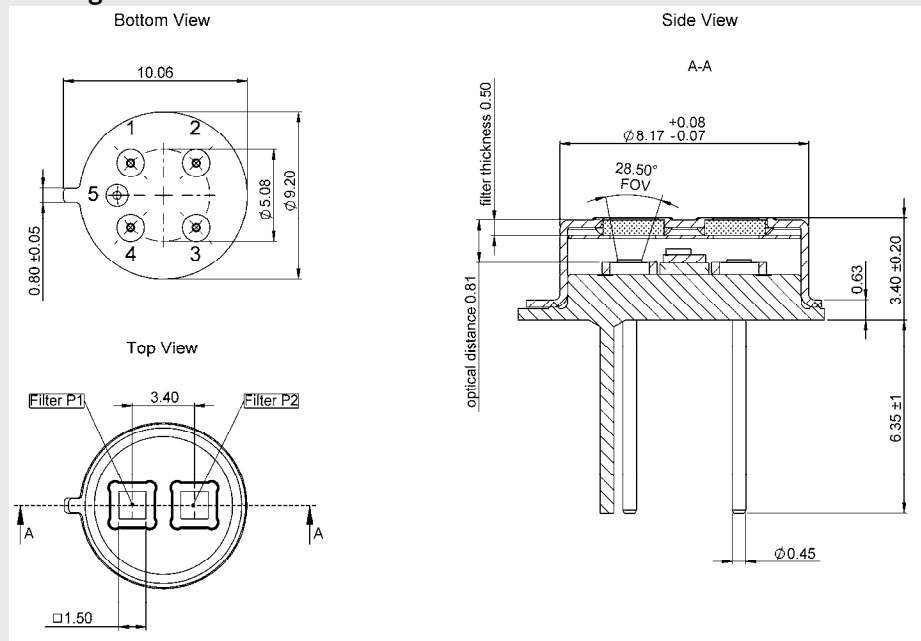


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## Frequency Response



## Housing



## Ordering Information

PS2x1C2-A-S1.5-Filling Gas (GG)-Filters (H/H)

e.g. PS2x1C2-A-S1.5-Kr-E1/D1

## 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