

## Four Channel Pyroelectric Detector PS4x2C1-A-S1.4

Pyroelectric quad-channel current mode detector for NDIR gas analysis.

Active Area	4 x (0.7 x 0.325)	mm <sup>2</sup>
Aperture	4 x (1.4 x 1.4)	mm <sup>2</sup>
Mode	Current	
Time Constant $t_{(0-63\%)} \text{ thermal}$	typ. 10	ms
Time Constant $t_{(0-63\%)} \text{ electrical}$	typ. 1000	ms
AC Sensitivity <sup>1,2,3</sup>	typ. 125000	V/W
Noise Density Voltage <sup>1</sup>	typ. 35	$\mu\text{V}/\text{Hz}^{1/2}$
Noise Equivalent Power NEP <sup>1,2,3</sup>	typ. $2.8 \times 10^{-10}$	W/Hz <sup>1/2</sup>
Specific Detectivity $D^*$ <sup>1,2,3</sup>	typ. $1.7 \times 10^8$	$\text{cmHz}^{1/2}/\text{W}$
Microphonic Voltage <sup>1</sup>	typ. 100	$\mu\text{V}/\text{g}$
Filling Gas	Kr	
Filters	Standard and customized filters on request. For more information please see document "infrared filters" and contact MHE.	
Operation Voltage VDD+	+2.7...+5	VDC
Operation Offset Voltage	0.1...(VDD+)-0.1	VDC
Operation Current	max. 1.1	mA
Feedback Resistor	10	GOhm
Feedback Capacitor	500	fF
Operation Temperature	-20 ... +70	°C
Mass	~1	g
Housing	T05	

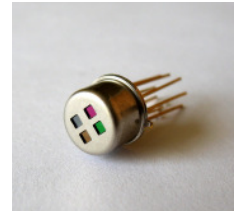
<sup>1</sup> at  $T_{\text{amb}}=25\text{ °C}$ , 10 Hz, band width 1 Hz

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

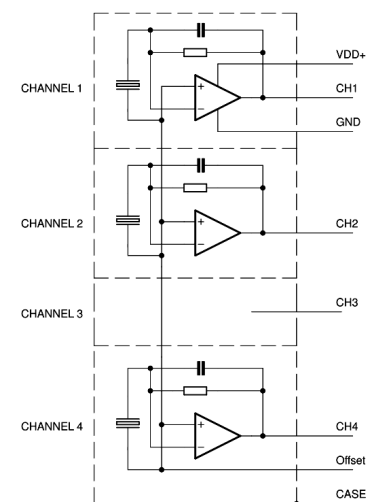
<sup>3</sup> on air without windows



**MICRO-HYBRID**



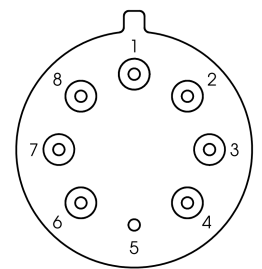
### Equivalent Circuit



### Pin Assignment

#### Bottom View

- Pin 1 Offset
- Pin 2 Output P1+
- Pin 3 Output P4+
- Pin 4 VDD+
- Pin 5 Case
- Pin 6 Output P3+
- Pin 7 Output P2+
- Pin 8 GND



**Micro-Hybrid Electronic GmbH**

Heinrich-Hertz-Straße 8  
D-07629 Hermsdorf

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

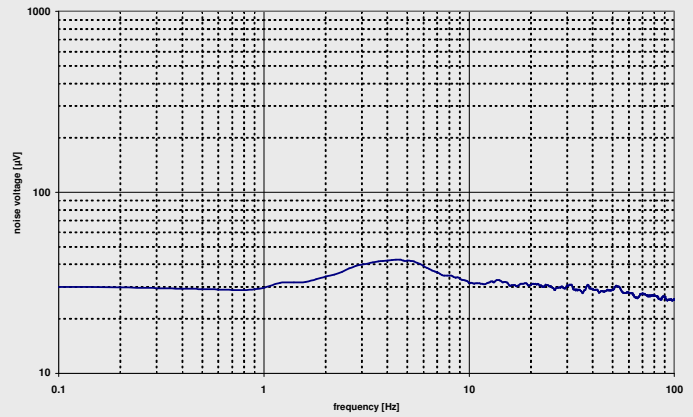
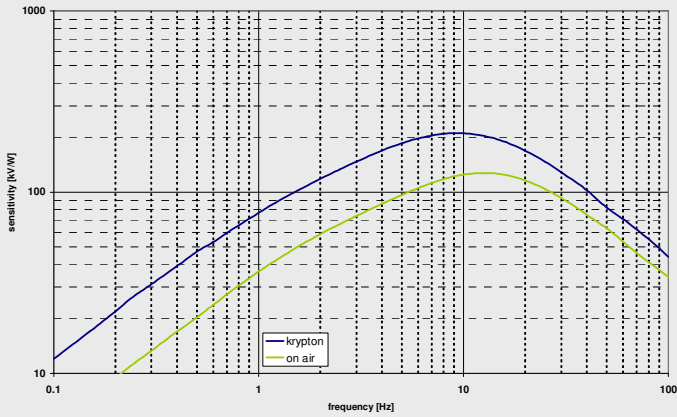
Email: [infrared@micro-hybrid.de](mailto:infrared@micro-hybrid.de)  
Web: [www.micro-hybrid.de](http://www.micro-hybrid.de)

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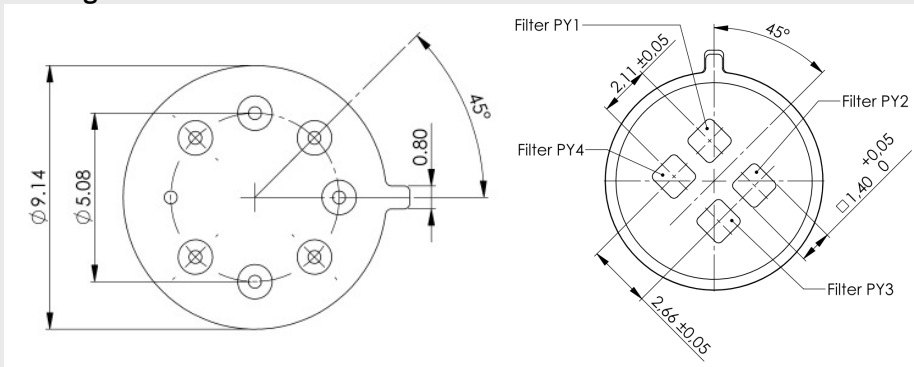


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### Frequency Response



### Housing



### Ordering Information

PS4x2C1-A-S1.5-Filling Gas (GG)-Filters (H/H/H/H)

e.g PS4x2C1-A-S1.5-Kr-D1/E1/G1/H1

### 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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Heinrich-Hertz-Straße 8  
D-07629 Hermsdorf

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

Email: [infrared@micro-hybrid.de](mailto:infrared@micro-hybrid.de)  
Web: [www.micro-hybrid.de](http://www.micro-hybrid.de)