



Two Channel MEMS Pyrodetector for High Temperature Enviroments PS2x1V1HT180 Preliminary

Fast High Temperature Dual Pyroelectric Detector with low microphone effect, low thermal time constant and low temperature dependency for NDIR gas analysis.

Type	PS2x1V1HT180		
Active Area A		2 x (0.8 x 0.8)	mm ²
Aperture		2 x (1.5 x 1.5)	mm ²
Mode		voltage	
Noise Density Voltage* ¹	typ.	60	nV/Hz ^{1/2}
Crosstalk between Channels	typ.	0.5	%
Time Constant $t_{(0-63\%)}^{*3}$ thermal	typ.	17	ms
Time Constant $t_{(0-63\%)}^{*3}$ electrical	typ.	8	s
AC Responsivity S ^{*1,2,3}	typ.	175	V/W
Specific Detectivity D ^{*1,2,3}	typ.	2.0E+08	cmHz ^{1/2} /W
Noise Equivalent Power NEP ^{*1,2,3}	typ.	3.4E-10	W/Hz ^{1/2}
Microphonic Voltage* ¹	typ.	2.9	μV/g
Filters		CO ₂ / Ref.	
Drain Source Voltage	max.	+18	VDC
External Load		10	kOhm
Offset Voltage		1.5 ... 3.0	V
Operation Temperature		-55 ... +180	°C
Mass		~1	g
Housing		TO39 (modified)	
Manufacturer Guarantee		2 years	

*¹ at 25°C, 10Hz, band with 1Hz
 *² 38μW/mm² at 500K black body
 *³ without windows

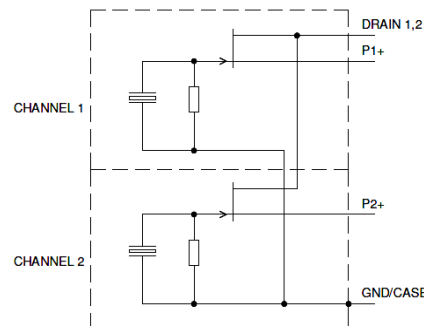
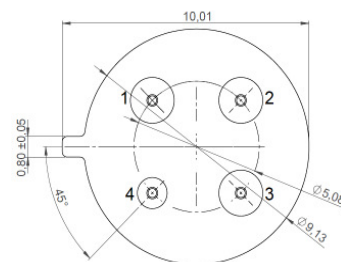
$$S = \frac{\tilde{U}}{\phi} \quad NEP = \frac{\tilde{U}_{noise}}{S} \quad D^* = \frac{\sqrt{A}}{NEP}$$

PS2x1V1 Two Channel Pyrodetector CO ₂ / Ref			
Gas	Channel	Filter	
		CWL [μm]	HBW [μm]
CO ₂	P1	4.265	0.110
reference	P2	4.000	0.080

Pin Assignment

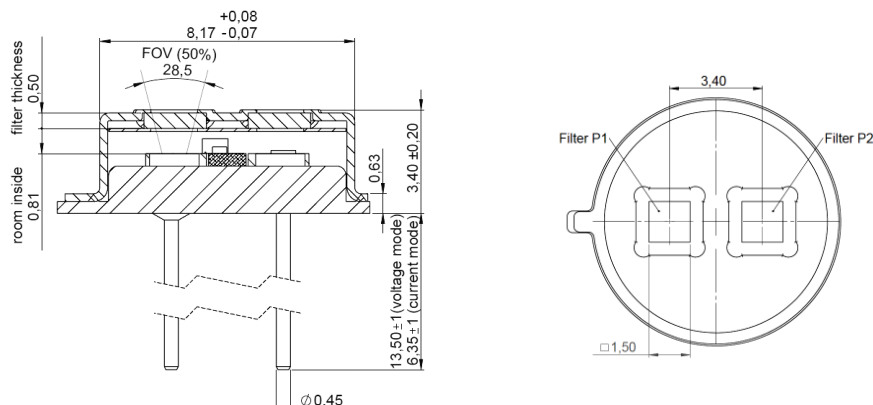
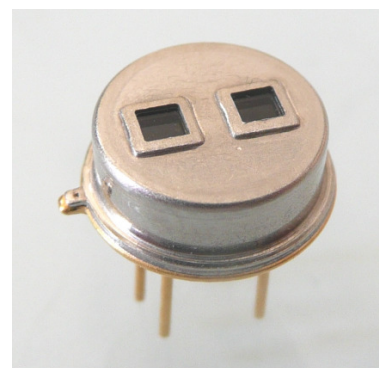
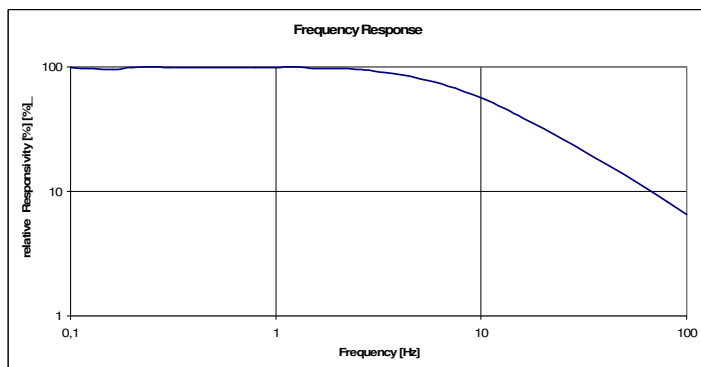
Pin 1 P1+
 Pin 2 Drain
 Pin 3 P2+
 Pin 4 GND

Bottom view



Order information:

PS2x1V1HT180 HT Dual Pyro Detector CO₂/Ref 4594.58-H.01



Micro-Hybrid Electronic GmbH

Heinrich-Hertz-Straße 8
 D - 07629 Hermsdorf

Tel.: +49 366 01 / 5 92 – 100
 Fax: +49 366 01 / 5 92 – 110

Email: contact@micro-hybrid.de
 Web: www.micro-hybrid.de