

Four Channel Thermopile TS4x2001 / TS4x200X

Thermopile Quad-Detector in Thin Film Technology with Narrow Band Filters for Gas Analysis.

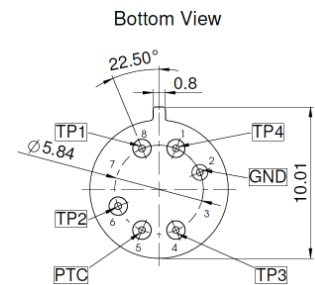
Type	TS4x2001	TS4x200X
Active Area	4 x (1.2 x 1.2)	mm ²
Aperture	4 x (1.5 x 1.5)	mm ²
Number of Thermocouples per Channel	200	
Resistance of Thermopile (at 25 °C)	65 ± 15	kΩ
Temperature Coefficient of Resistance ¹	typ. -0.03	%/K
Temperature Coefficient of Sensitivity ¹	typ. -0.4	%/K
Noise Voltage (at 25 °C)	typ. 33	nV/Hz ^{1/2}
DC Output Voltage (at 38μW/mm ²) ²	typ. 4.4	mV
DC Sensitivity (at 38 μW/mm ²) ²	typ. 80	V/W
Time Constant $t_{(0-63\%)}^2$	typ. 30	ms
Filling Gas ³	Nitrogen/ Krypton	
Specific Detectivity D* (500K black body, DC) ²	typ. 2.95 x 10 ⁸	cmHz ^{1/2} /W
Noise Equivalent Power NEP	typ. 0.41	nW/Hz ^{1/2}
Filters	CO ₂ /CO/HC/Ref.	arbitrary
Thermistor	PTC Ni1000	
Operation Temperature	-20 ... +70	°C
Mass	0.95	g
Housing	TO39 (modified)	
Guarantee	5 years	

¹ in the temperature range from +25 to +70 °C

² on air without windows

³ For the case of Kr-filling increase of DC Output Voltage, DC Sensitivity, Specific Detectivity and Time Constant by the factor 1.8. Decrease of NEP by the same factor. Other gases on the customer's request.

April 2009 – subject to change without notice



Pin Assignment:

Pin 1	Output TP4
Pin 2	Mass (GND)
Pin 4	Output TP3
Pin 5	PTC
Pin 6	Output TP2
Pin 8	Output TP1

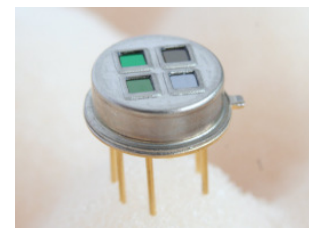
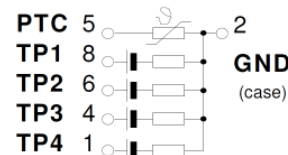
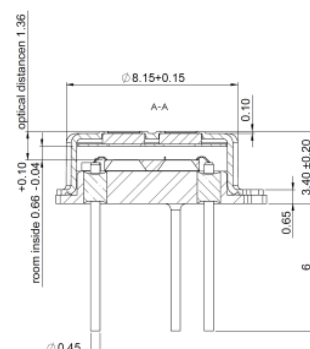
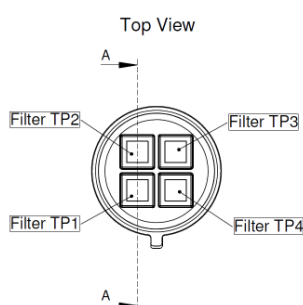
Gas	Channel	Filter	
		CWL (μm)	HBW (μm)
CO	TP1	4.650	0.180
CO ₂	TP2	4.265	0.110
HC	TP3	3.450	0.140
Reference	TP4	4.000	0.080

Order information:

TS4x2001 Quad Thermopile Detector, Filter: CO₂ /CO/HC/Ref (N₂) Art.-Nr. 4594.33-2.01
 TS4x2001 Quad Thermopile Detector, Filter: CO₂ /CO/HC/Ref (Kr) Art.-Nr. 4594.33-2.02
 TS4x200X Art.-Nr. please inquire

Thermistor

1000 ± 2.5 Ω (at 0°C)
 6178 $\frac{+62}{-72}$ ppm/K (0... +70°C)



Optional parts:

IR-Source JSIR 450 Broadband IR emitters high performance for heavily absorbing media
 Art.-Nr. 6350.01-3.01

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