

Two Channel Thermopile TS2x2001 / TS2x2002 / TS2x2003 / TS2x200X

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

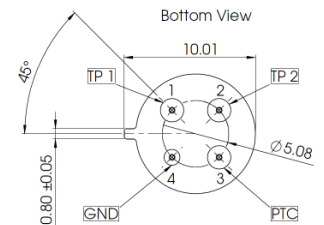
Type	TS2x2001	TS2x2002	TS2x2003	TS2x200X
Active Area	2 x (1.2 x 1.2)			mm ²
Aperture	2 x (1.5 x 1.5)			mm ²
Number of Thermocouples per Channel	200			
Resistance of Thermopile (at 25 °C)	65 ±15			kΩ
Temperature Coefficient of Resistance ¹	typ. -0.03			%/K
Temperature Coefficient of Sensitivity ¹	typ. -0.4			%/K
Noise Voltage (at 25 °C)	typ. 33			nV/Hz ^{1/2}
DC Output Voltage (at 38 μW/mm ²) ²	typ. 5.4			mV
DC Sensitivity (at 38 μW/mm ²) ²	typ. 98			V/W
Crosstalk	typ. 0.2			%
Time Constant $t_{(0-63\%)}^2$	typ. 40			ms
Filling Gas ³	Nitrogen/ Krypton			
Specific Detectivity D* (500K black body, DC) ²	3.59 x 10 ⁸			cmHz ^{1/2} /W
Noise Equivalent Power NEP	0.33			nW/Hz ^{1/2}
Filters	CO ₂ / Ref.	CO / Ref.	HC / Ref.	arbitrary
Thermistor	PTC Ni1000			
Operation Temperature	-20 ... +70			°C
Mass	0.95			g
Housing	TO39 (modified)			
Guarantee	5 Jahre			

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.

May 2009 – subject to change without notice



Pin Assignment:

Pin 1	Output TP1
Pin 2	Output TP2
Pin 3	PTC
Pin 4	Mass (GND)

TS2x2001 Dual Thermopile Detector CO ₂ /Ref			
Gas	Channel	Filter	
		CWL [μm]	HBW [μm]
CO ₂	TP1	4.265	0.110
reference	TP2	4.000	0.080

TS2x2002 Dual Thermopile Detector CO/Ref			
Gas	Kanal	Filter	
		CWL [μm]	HBW [μm]
CO	TP1	4.650	0.180
reference	TP2	4.000	0.080

TS2x2003 Dual Thermopile Detector HC/Ref			
Gas	Channel	Filter	
		CWL [μm]	HBW [μm]
HC	TP1	3.450	0.140
reference	TP2	4.000	0.080

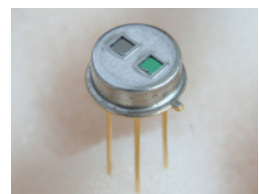
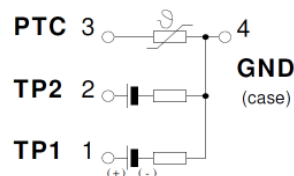
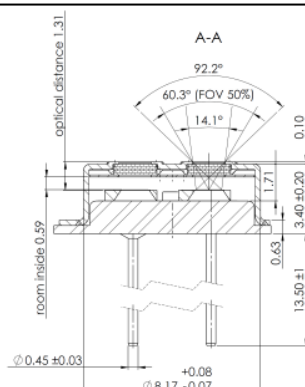
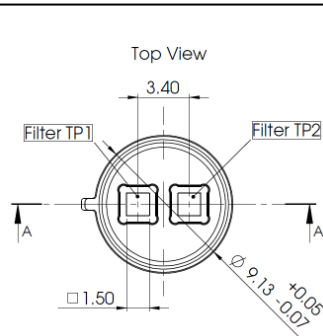
Order information (for N₂→X=1, for Kr→X=2):

TS2x2001 Dual Thermopile Detector CO₂/Ref
 TS2x2002 Dual Thermopile Detector CO/Ref
 TS2x2003 Dual Thermopile Detector HC/Ref
 TS2x200X

4594.50-2.0X
 4594.50-2.1X
 4594.50-2.2X
 Art.-Nr. please inquire

Thermistor

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



Komplettierung durch:

IR-Source JSIR 450

Preamplifier TE2AMP1

Broadband IR emitters high performance for heavily absorbing media
 Art.-Nr. 6350.01-3.01
 Low noise preamplifier for Dual Thermopile Detectors
 Art.-Nr. 9627.01-4.51

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