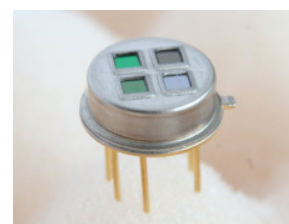




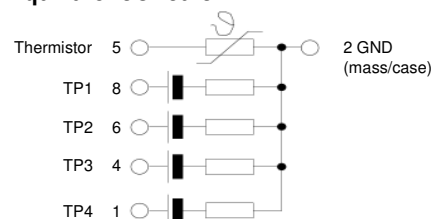
## Four Channel Thermopile Detector TS4xQ200B-A-S1.5

High sensitive thermopile quad-detector based on thin film technology with narrow band filters for gas analysis – Docking of electrical and physical channel parameters by “One-Chip” solution.

Active Area (four active areas on one chip)	4 x (1.2 x 1.2)	mm <sup>2</sup>
Aperture	4 x (1.5 x 1.5)	mm <sup>2</sup>
Number of Thermocouples per Channel	200	
Time Constant $\tau_{(0-63\%)}^1$	typ. 30	ms
DC Output Voltage <sup>1</sup>	typ. 4.4	mV
DC Sensitivity <sup>1</sup>	typ. 80	V/W
Temperature Coefficient of Sensitivity <sup>2</sup>	typ. -0.4	%/K
Noise Voltage <sup>3</sup>	typ. 33	nV/Hz <sup>1/2</sup>
Noise Equivalent Power NEP <sup>1</sup>	typ. 0.41	nW/Hz <sup>1/2</sup>
Specific Detectivity D* <sup>1</sup>	typ. 2.95 x 10 <sup>8</sup>	cmHz <sup>1/2</sup> /W
Resistance of Thermopile <sup>3</sup>	65 ± 15	kΩ
Temperature Coefficient of Resistance <sup>2</sup>	typ. -0.06	%/K
Thermistor	1 – PTC 1 kΩhm 2 – NTC 30 kΩhm 3 – NTC 100 kΩhm  Technical specifications see document “thermistors”.	
Filling Gas <sup>4</sup>	N <sub>2</sub> / 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 Temperature	-20 ... +70	°C
Mass	1	g
Housing	T039 (modified)	

<sup>1</sup> on air without windows, Blackbody T=500 K; E=38 W/m<sup>2</sup><sup>2</sup> temperature range from +25 to +70 °C<sup>3</sup> at T<sub>amb</sub>=25 °C<sup>4</sup> In case of Kr-filling increase of DC Output Voltage, DC Sensitivity, Specific Detectivity and Time Constant by the factor :  
Decrease of NEP by the same factor. Other gases on customer's request.

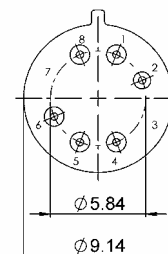
### Equivalent Circuit



### Bottom View

Pin Assignment:

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

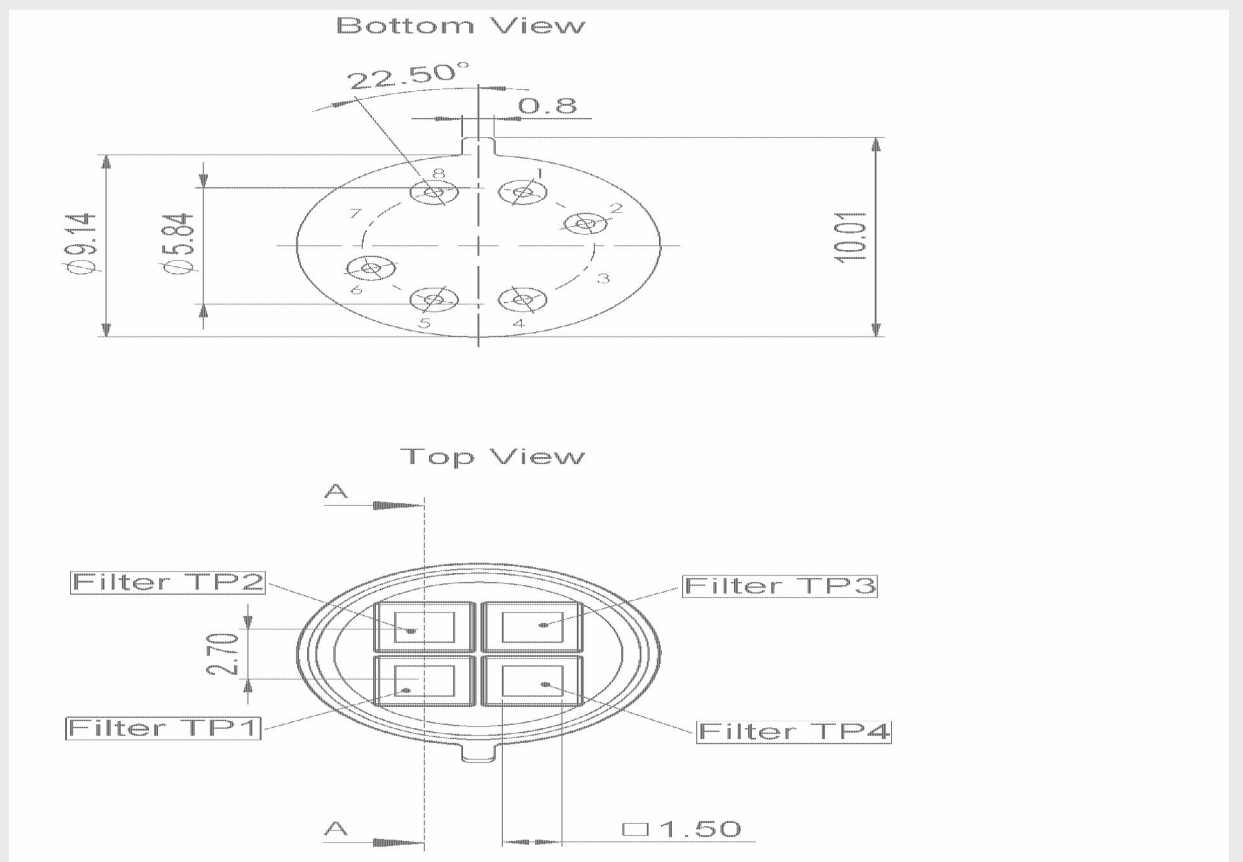


### Ordering Information:

TS4xQ200B-A-S1.5 – Thermistor (F) – Backfill Gas (GG) – Filters (H/H/H/H)  
 e.g. TS4xQ200B-A-S1.5-1-Kr-E1/F1/G1/D1

# Four Channel Thermopile Detector TS4xQ200B-A-S1.5

Housing  
T039 package



## Optional parts:

IR-Source JSIR 350 - Fast IR emitter based on thin film technology  
Art.-Nr. 6351.01-3.01

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