

## Two Channel Thermopile Detector TS2x200B-A-S1.5

High sensitive thermopile dual-detector based on thin film technology with narrow band filters for gas analysis.

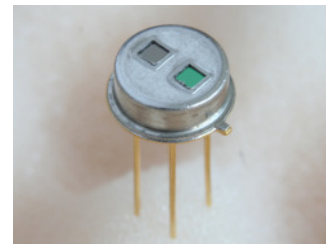
Active Area	2 x (1.2 x 1.2)	mm <sup>2</sup>
Aperture	2 x (1.5 x 1.5)	mm <sup>2</sup>
Number of Thermocouples per Channel	200	
Time Constant $t_{(0-63\%)}^1$	typ. 30	ms
DC Output Voltage <sup>1</sup>	typ. 5.5	mV
DC Sensitivity <sup>1</sup>	typ. 100	V/W
Temperature Coefficient of Sensitivity <sup>2</sup>	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. 0.33	nW/Hz <sup>1/2</sup>
Specific Detectivity D* <sup>1</sup>	typ. $3.6 \times 10^8$	cmHz <sup>1/2</sup> /W
Resistance of Thermopile <sup>3</sup>	65 ± 15	kΩ
Temperature Coefficient of Resistance <sup>2</sup>	typ. -0.03	%/K
Thermistor	1 – PTC 1 kOhm 2 – NTC 30 kOhm 3 – NTC 100 kOhm  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>

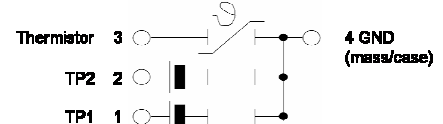
<sup>2</sup> temperature range from +25 to +70 °C

<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 1.8. Decrease of NEP by the same factor. Other gases on customer's request.



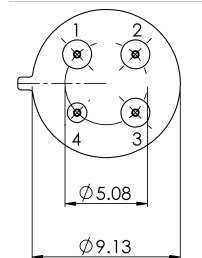
### Equivalent Circuit



### Bottom View

Pin Assignment:

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



### Ordering Information:

TS2x200B-A-S1.5 - Thermistor (F) - Backfill Gas (GG) - Filters (H/H)  
e.g. TS2x200B-A-S1.5-1-Kr-E1/D1

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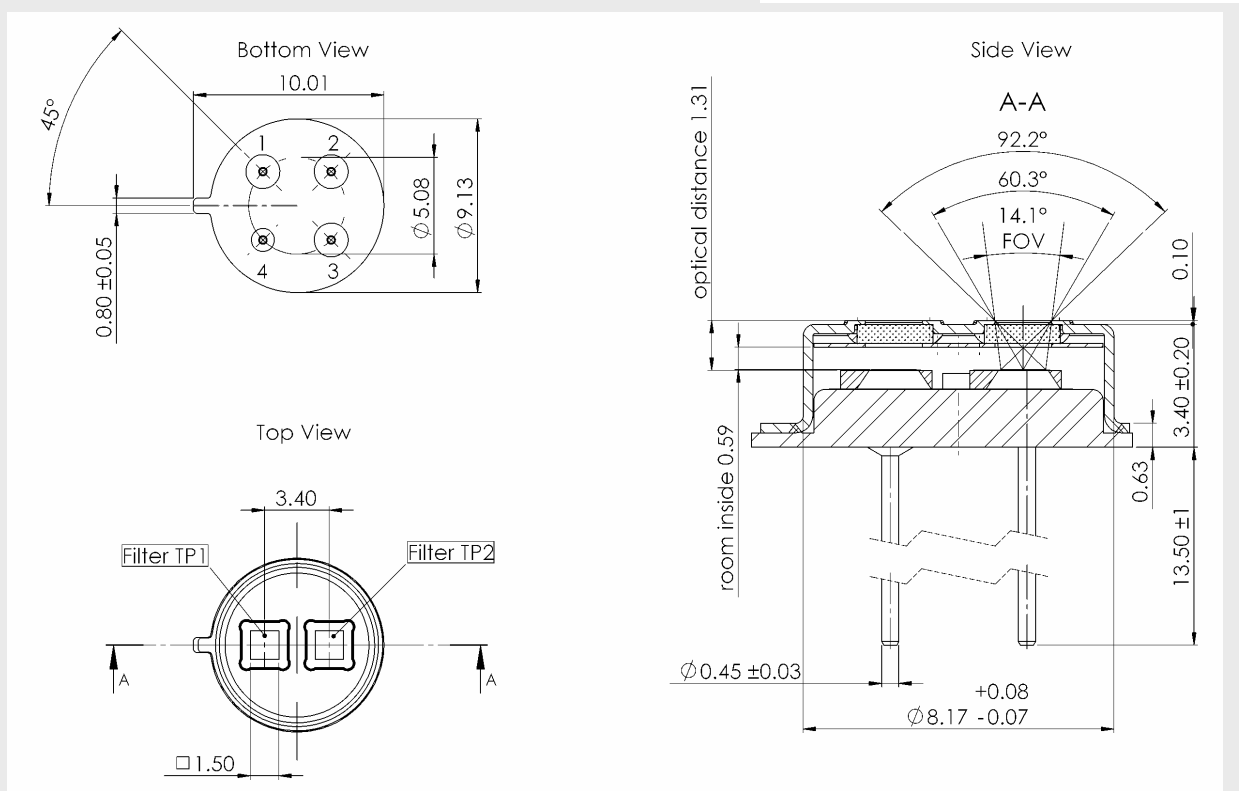
Email: [infrared@micro-hybrid.de](mailto:infrared@micro-hybrid.de)  
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March 15<sup>th</sup> 2011 - subject to change without notice

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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

Preamplifier TE2AMP1 - Low noise preamplifier for Dual Thermopile Detectors  
Art.-Nr. 9627.01-4.51

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