

# One Channel Thermopile Detector

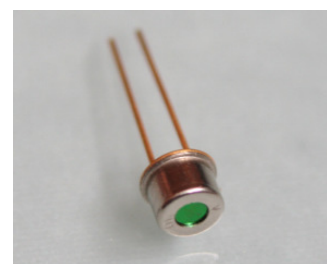
Miniaturized thermopile detector based on thin film technology with low time constant for NDIR gas analysis.

Active Area	(0.8 x 0.8)	mm <sup>2</sup>
Aperture	∅ 2.4	mm
Number of Thermocouples	180	
Time Constant $t_{(0-63\%)}^1$	12±5	ms
DC Output Voltage <sup>1</sup>	typ. 1.5	mV
DC Sensitivity <sup>1</sup>	typ. 62	V/W
Temperature Coefficient of Sensitivity <sup>2</sup>	-0.45±0.08	%/K
Noise Voltage <sup>3</sup>	typ. 34	nV/Hz <sup>1/2</sup>
Noise Equivalent Power NEP <sup>1</sup>	typ. 0.55	nW/Hz <sup>1/2</sup>
Specific Detectivity D* <sup>1</sup>	typ. 1.45 x 10 <sup>8</sup>	cmHz <sup>1/2</sup> /W
Resistance of Thermopile <sup>3</sup>	70 ± 30	kΩ
Temperature Coefficient of Resistance <sup>2</sup>	-0.06±0.04	%/K
Thermistor	0 – no thermistor Customer specific solution on request	
Filling Gas	N <sub>2</sub>	
Filters	Micro-Hybrid standard narrow band pass filters. More information please see document "standard filters". Customized filters possible on request.	
Operation Temperature	-20 ... +85	°C
Mass	0.3	g
Housing	T046 (modified)	

<sup>1</sup> on air without windows, Blackbody T=500 K; E=38 W/m<sup>2</sup>

<sup>2</sup> in the temperature range from +25 to +75°C

<sup>3</sup> at T<sub>amb</sub>=25 °C

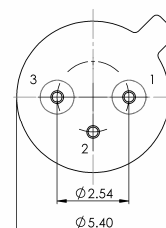


## Bottom View

Pin Assignment:

Pin 1 Output TP-

Pin 3 Output TP+



## Ordering information:

TS1x180S-B-D2.4 – Thermistor (F) –  
Backfill Gas (GG) – Filter (H)  
e.g. TS1x180S-B-D2.4-0-N2-F1

**Micro-Hybrid Electronic GmbH**

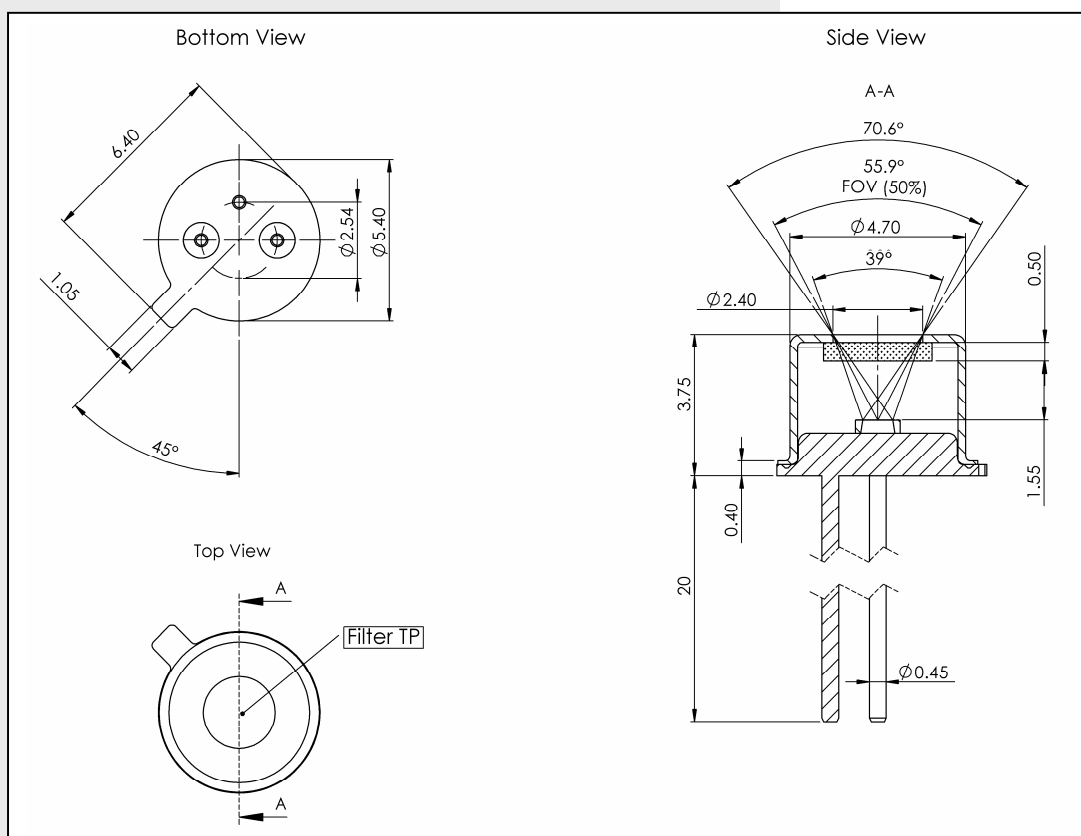
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# One Channel Thermopile Detector

Housing  
T046 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

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