



## One Channel Thermopile Detector TS1x80B-A-D0.48

Thermopile Detector based on thin film technology with a small active area recommended for temperature measurements with a band pass filter.

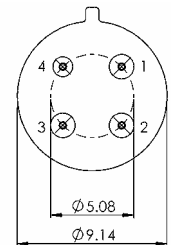
Active Area	Ø 0.5	mm
Aperture	Ø 0.5	mm
Number of Thermocouples per Channel	80	
Time Constant $t_{(0-63\%)}^1$	typ. 40	ms
DC Output Voltage <sup>1</sup>	typ. 2.2	mV
DC Sensitivity <sup>1</sup>	typ. 295	V/W
Temperature Coefficient of Sensitivity <sup>2</sup>	typ. -0.4	%/K
Noise Voltage <sup>3</sup>	typ. 18	nV/Hz <sup>1/2</sup>
Noise Equivalent Power NEP <sup>1</sup>	typ. 0.06	nW/Hz <sup>1/2</sup>
Specific Detectivity D* <sup>1</sup>	typ. 7.2 x 10 <sup>8</sup>	cmHz <sup>1/2</sup> /W
Resistance of Thermopile <sup>3</sup>	20 ± 8	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	Micro-Hybrid standard band pass filters and more information please see document "infrared filters". Customized filters possible on request.	
Operation Temperature	-20 ... +85	°C
Mass	1	g
Housing	T039 (modified)	



### Bottom View

Pin Assignment:

- Pin 1 Output TP+
- Pin 2 Output TP-
- Pin 3 Thermistor
- Pin 4 Mass (GND)



### Ordering Information:

TS1x80B-A-D0.48 - Thermistor (F) - Backfill Gas (GG) - Filter (H)

e.g. TS1x80B-A-D0.48-1-Kr-B1

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

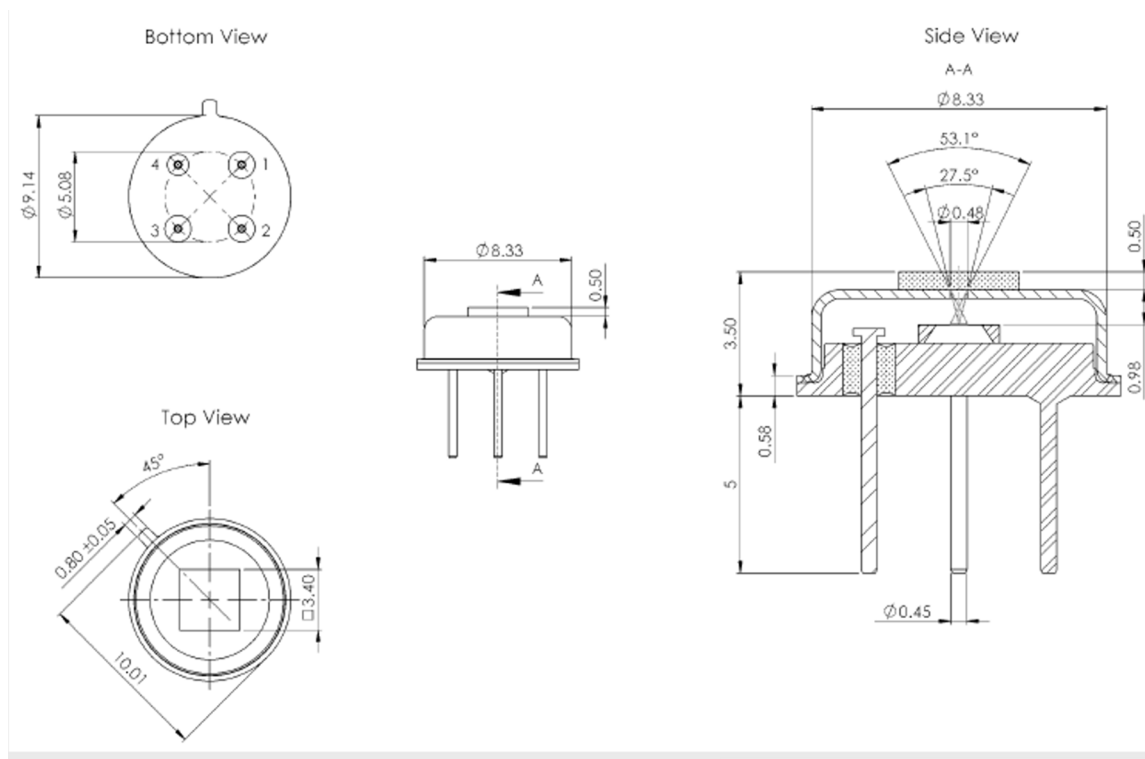
<sup>2</sup> temperature range from +25 to +70 °C

<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.

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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

Preampifier TE2AMP1 - Low noise preampifier for Dual and Single Thermopile Detectors  
Art.-Nr. 9627.01-4.51

March 15<sup>th</sup> 2011 - subject to change without notice