

Thermopile Sensor TS105-3



Condition

## The TS105-3 is a thermopile sensor for use in long range contactless temperature measurement

Thermopiles are mainly used for conactless temperature measurement in many applications. Their function is to transfer the heat radiation emitted from the objects into voltage output. Major applications are appliances like microwave oven, clothes dryer, automatic cooking, medical devices like ear and fore head thermometer, automotive applications like car climate control, seat occupancy, blind spot alert, black ice detection, consumer products like printer, copier, mobile phone and many industry applications like paper web, plastic parts etc.

		Parameter
		Package
	HLP	Absorber Area
		Resistance of T
13105.3		TC of Resistance
		Thermopile Volt
	/))	TC of sensitivity
		Noise Equivalen
		Rise Time
		Field of View
		Filter
		Operation Temp
		Operation Temp
		Ambient Tempe
		Resistance
		TC of Resistance
		Connections
		Pin 1
		Pin 2
		Pin 3
		Din 4

	iypicai	Contantion
Package	TO-5	
Absorber Area	0.7×0.7 mm <sup>2</sup>	
Resistance of Thermopile	43±8 kΩ	+25 °C
TC of Resistance	-0.06±0.04 %/K	$+25^\circ\!\mathrm{C} \to +75^\circ\!\mathrm{C}$
Thermopile Voltage	3.3±0.85 mV	+25°C, BB +100°C,DC totally filled field of view
TC of sensitivity	-0.45±0.08 %/K	$+25^{\circ}\!\text{C} \rightarrow +75^{\circ}\!\text{C}$
Noise Equivalent Voltage	30 nV/Hz <sup>1/2</sup>	+25℃
Rise Time	20±5 ms	τ <sub>63</sub>
Field of View	90°	
Filter	8-14 μm	band pass
Operation Temperature	-20 +85 ℃	
Operation Temperature	-20 … +100°C	non permanent
Ambient Temperature Sensor	Ni-RTD	
Resistance	1000±4 Ω	<b>D° O</b>
TC of Resistance	6178±150 ppm/K	$0^\circ\!\mathrm{C}  ightarrow + 100^\circ\!\mathrm{C}$
Connections		
Pin 1	TP -	
Pin 2	TP +	
Pin 3	Ni-RTD	
Pin 4	GND	

Typical

## **Mechanical Dimensions**

+/- 0.2

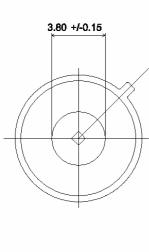
8.15

0.2

¥

9.00

TOP VIEW





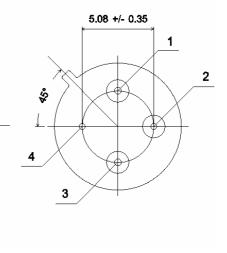
TP-Chip

1.7 +/-0.2

4.4+/-0.2

13.2+/-0.3

BOTTOM VIEW



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0.45 +/-0.1

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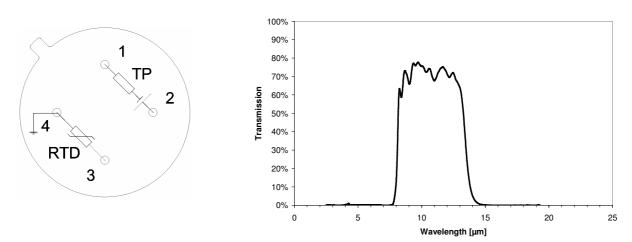


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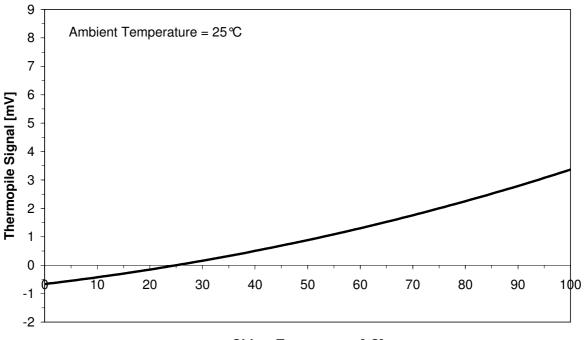


## Connections Bottom View

## **Filter Transmission**







Object Temperature [°C]

Additional products with different filters and packages are also available.

Specifications are subject to change without notice !

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