Model TS118-5 Thermopile Sensor

- **Thermopile IR-Sensor**
- **For contactless Temperature Measurement**
- **High Signal**
- **Uncooled**
- **NTC Reference Sensor**
- **5µm Long Wave Pass Filter**

DESCRIPTION

Thermopiles are mainly used for contactless temperature measurement in many applications. Their function is to transfer the heat radiation emitted from the objects into a 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.

FEATURES

- High signal
- NTC reference sensor
- 5µm long wave pass filter
- Small TO-18 package

APPLICATIONS

- Pyrometers for distances shorter 0.5 m
- Industrial pyrometers
- Climate Control
- Ear Thermometer

PERFORMANCE SPECS

Parameter	Typical	Condition
Package	TO-18	
Absorber Area	0.7×0.7 mm²	
Resistance of Thermopile	43±8 kΩ	+25 °C
TC of Resistance	-0.06±0.04 %/K	+25°C → +75°C
Thermopile Voltage	8.0±2.0 mV	+25°C, BB +100°C,DC, totally filled field of view
TC of sensitivity	-0.45±0.08 %/K	+25°C → +75°C
Noise Equivalent Voltage	30 nV/Hz1/2	+25°C
Rise Time	20±5 ms	τ_{63}
Field of View	120°	at 50%
Filter	5.0 µm	cut on wavelength
Operation Temperature	-20 … +85°C	
Operation Temperature	-20 … +100°C	non permanent
Ambient Temperature Sensor	NTC	
Resistance	100 kΩ ±3%	+25°C
β-Value	3955 K ±0.5%	0°C → +50°C
Connections		
Pin 1	TP +	
Pin 2	NTC	
Pin 3	TP -	
Pin 4	GND	

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ELECTRICAL CONNECTIONS

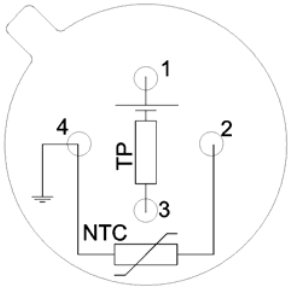

Figure 1: Electrical connections- bottom view of thermopile

MECHANICAL DIMENSIONS

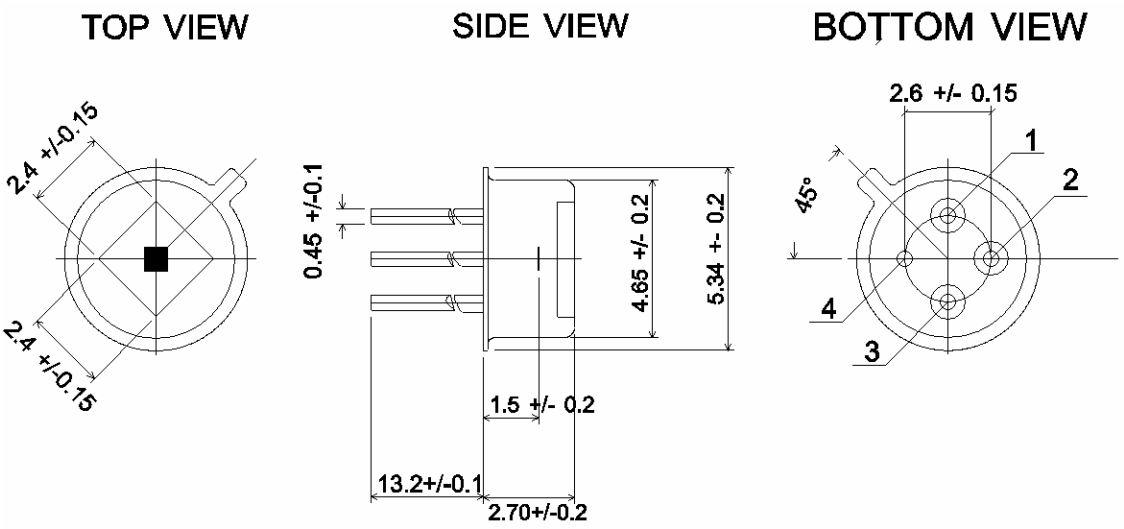

Figure 2: Mechanical dimensions of thermopile

TYPICAL PERFORMANCE CURVES

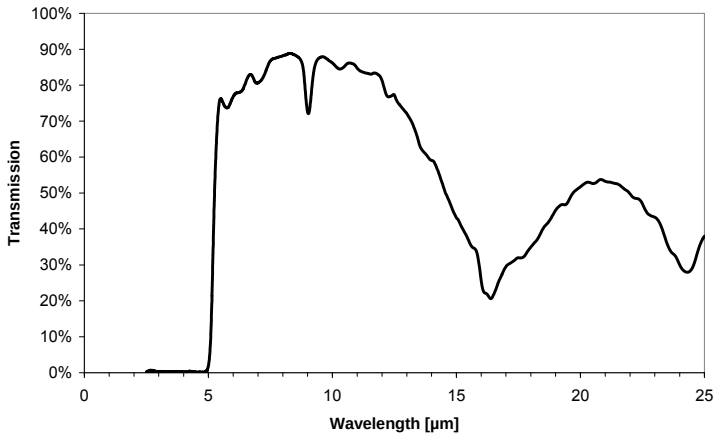

Figure 3: Filter transmission curve

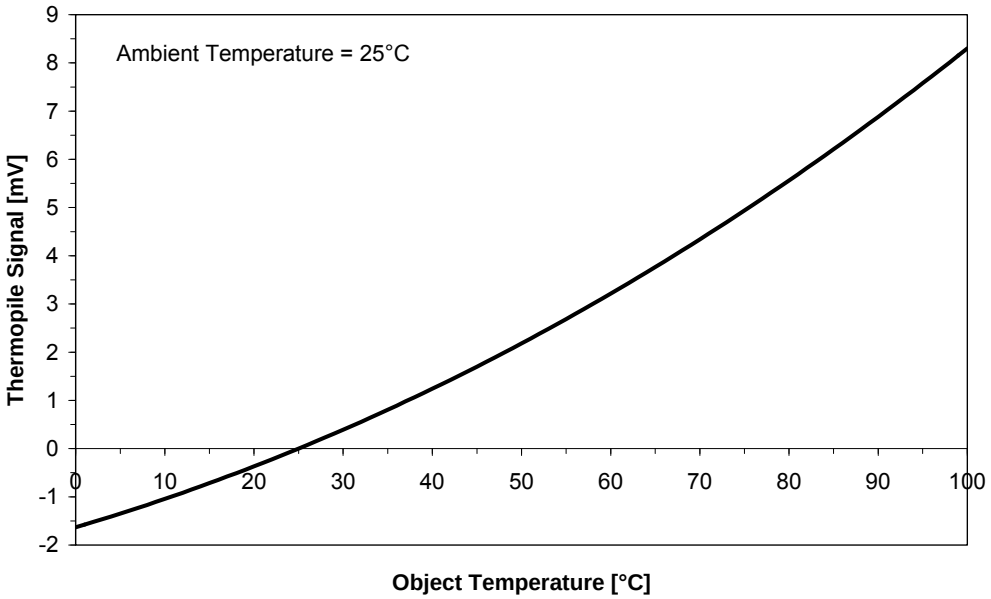

Figure 3: Thermopile signal versus object temperature at 25°C ambient temperature

ORDERING INFORMATION

Please order this product using following:

Part Number	Part Description
G-TPCO-005	TS 118-5 5.0 MICROM NTC 100K

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