

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 forehead 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 mm ²	
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/Hz ^{1/2}	+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

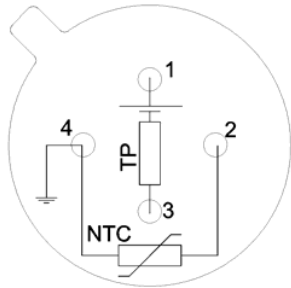


Figure 1: Electrical connections- bottom view of thermopile

MECHANICAL DIMENSIONS

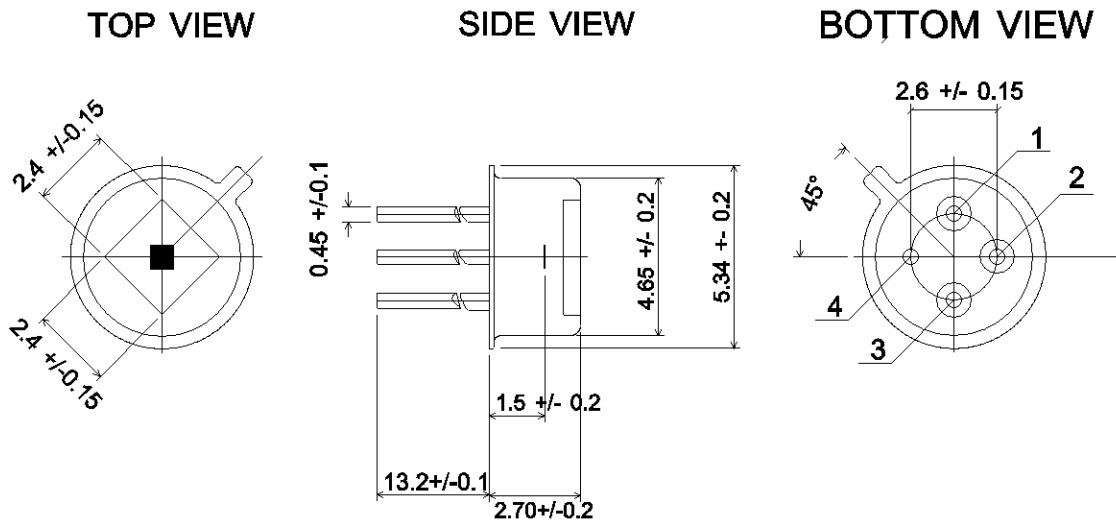


Figure 2: Mechanical dimensions of thermopile

TYPICAL PERFORMANCE CURVES

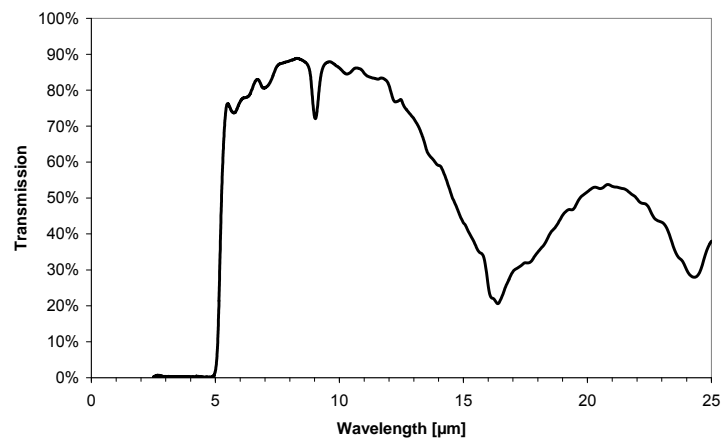


Figure 3: Filter transmission curve

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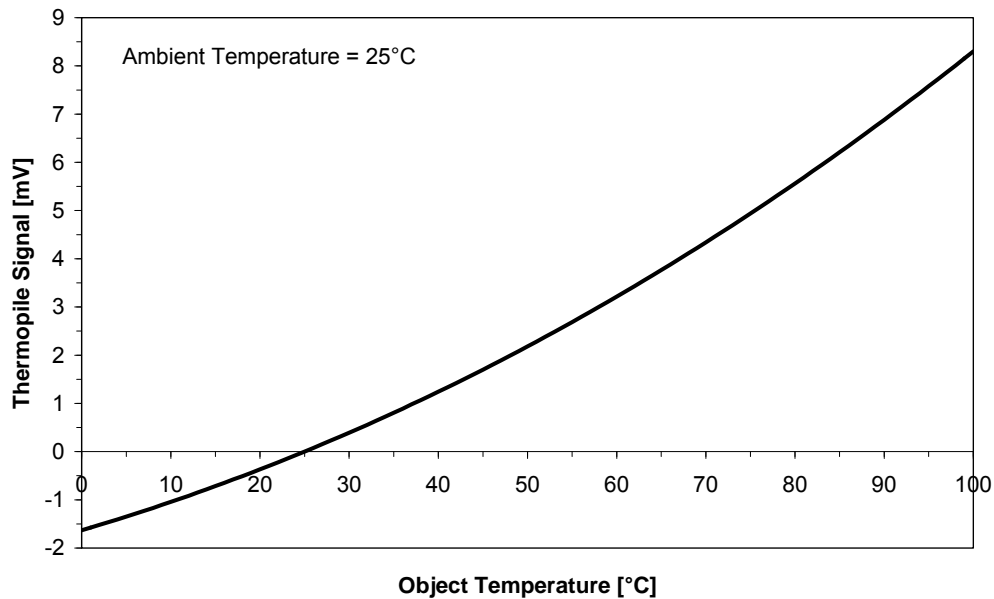


Figure 3: Thermopile signal versus object temperature at 25°C ambient temperature

ORDERING INFORMATION

Please order this product using following:

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

NORTH AMERICA

Measurement Specialties, Inc.
910 Turnpike Road
Shrewsbury, MA 01545
Tel: 1-508-842-0516
Fax: 1-508-842-0342

Sales email:
temperature.sales.amer@meas-spec.com

EUROPE

MEAS Deutschland GmbH
Hauert 13
44227 Dortmund
Tel: +49 (0) 231/9740-0
Fax: +49 (0) 231/9740-20

Sales email:
info.de@meas-spec.com

ASIA

Measurement Specialties (China) Ltd.
No. 26 Langshan Road
Shenzhen High-Tech Park (North)
Nanshan District, Shenzhen 51807
China
Tel: +86 (0) 755 33305088
Fax: +86 (0) 755 33305099

Sales email:
temperature.sales.asia@meas-spec.com

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