

- Thermopile IR-Sensor
- For contactless Temperature Measurement
- High Signal
- Uncooled
- Accurate Ni1000RTD Reference Sensor
- 8-14µm Wide Band 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
- Accurate Ni1000-RTD reference sensors
- 8-14µm Wide Band Pass Filter
- Small TO-18 package

## APPLICATIONS

- Pyrometers for distances longer 0.5 m
- Pyrometers with large span ambient temperature
- Industrial pyrometers
- Climate Control

## PERFORMANCE SPECS

Parameter	Typical	Condition
Package	TO-18	
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°C → +75°C
Thermopile Voltage	4.4±1.1 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 <sup>1/2</sup>	+25°C
Rise Time	20±5 ms	τ <sub>63</sub>
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	Ni-RTD	
Resistance	1000±4 Ω	0°C
TC of Resistance	6178±150 ppm/K	0°C → +100°C
Connections		
Pin 1	TP +	
Pin 2	Ni-RTD	
Pin 3	TP -	
Pin 4	GND	

## ELECTRICAL CONNECTIONS

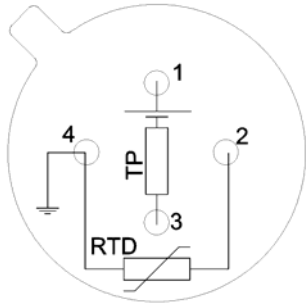


Figure 1: Electrical connections- bottom view of thermopile

## MECHANICAL DIMENSIONS

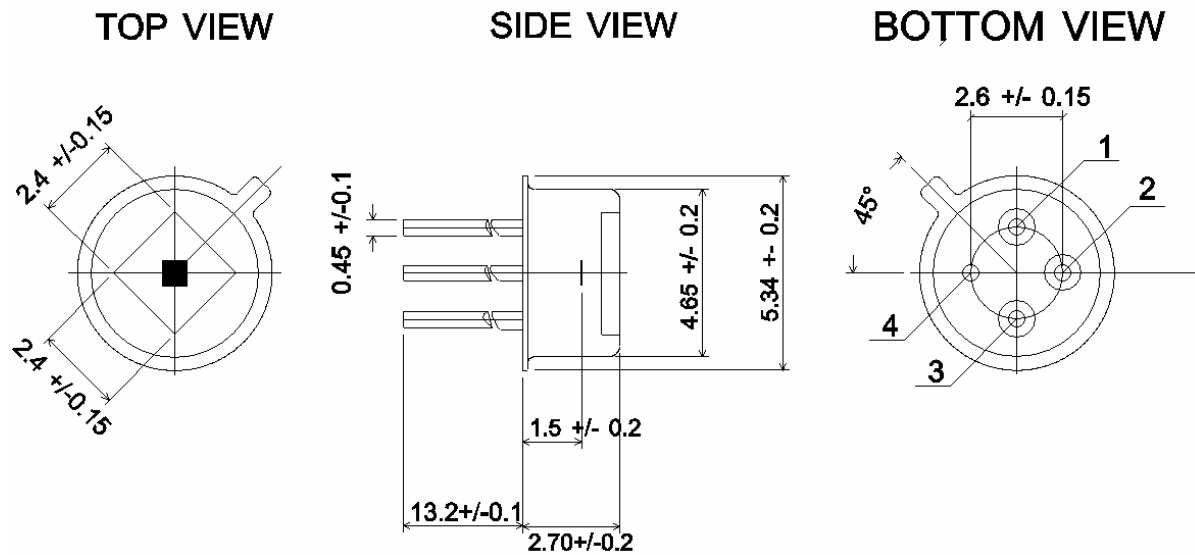


Figure 2: Mechanical dimensions of thermopile

## TYPICAL PERFORMANCE CURVES

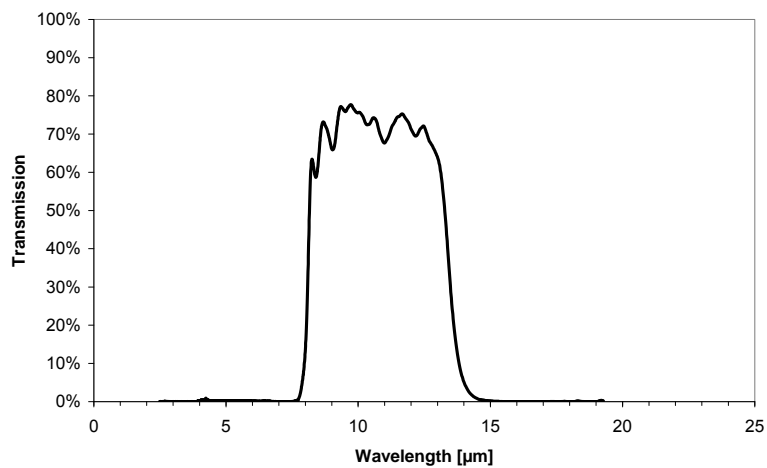


Figure 3: Filter transmission curve

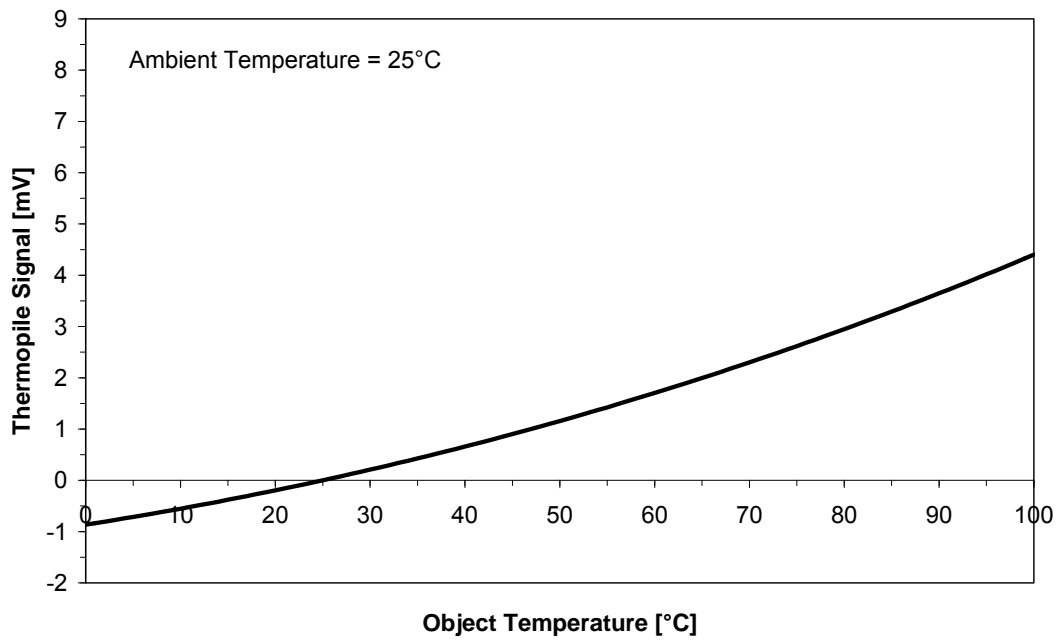


Figure 3: Thermopile signal versus object temperature at 25°C ambient temperature