

# TP700F01

Silicon-Based Thermopile IR Sensor

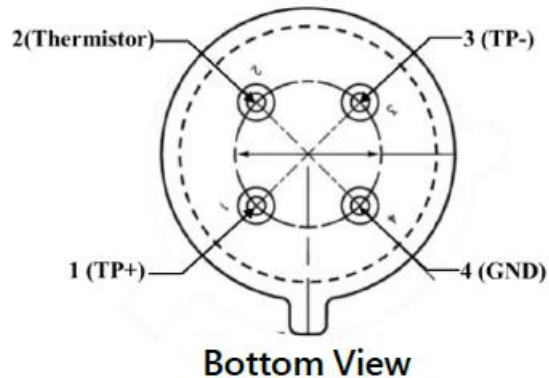
The TP700 series is a small area, cost-effective, low-noise and sensitive, single-channel thermopile sensor used for radiation sensing or non-contact temperature measurement. It is designed especially for tympanic or forehead thermometer. The miniature device is fabricated by MEMS technology in standard IC foundry.

## Features

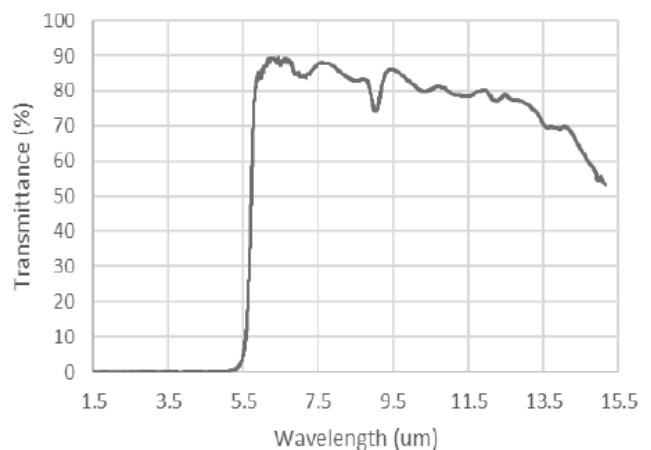
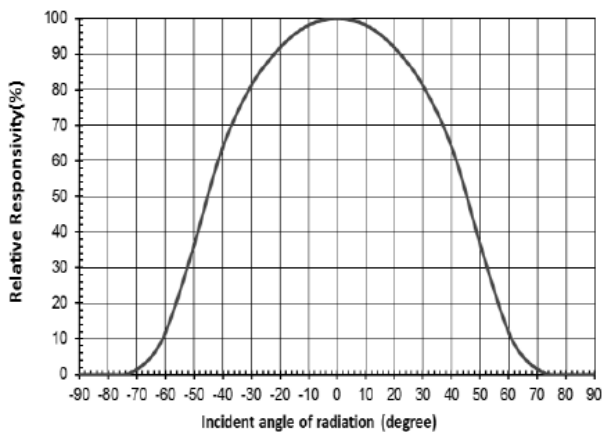
- Analog Output
- TO-46 packaged
- Quick thermal response
- Thermistor temperature reference included
- Used for non-contact temperature measurement or forehead thermometers

## Pin Definition

Pin No.	Pin Description
1	TP+
2	NTC
3	TP-
4	GND



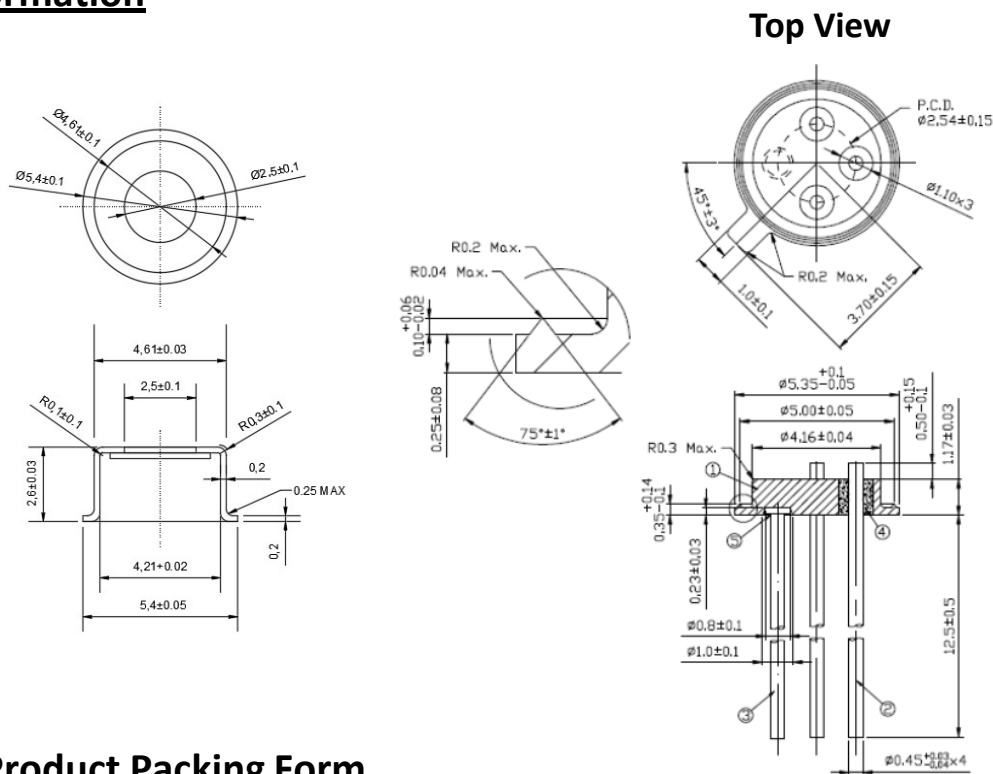
## Optical Characteristics



## Technical Specifications

Parameter	Symbol	Value	Unit	Conditions
Active area	A	0.49	mm <sup>2</sup>	0.7 x 0.7 mm <sup>2</sup>
Output voltage	V <sub>s</sub>	1.04 ± 30%	mV	T <sub>b</sub> = 50°C, T <sub>a</sub> = 25°C, 5.5-14um, FOV = 90°
Voltage Responsivity	R <sub>v</sub>	53.1	V/W	T <sub>b</sub> = 50°C, T <sub>a</sub> = 25°C, 5.5-14um, FOV = 90°
Temperature coefficient of R <sub>v</sub>	TCR <sub>v</sub>	0.04± 0.02	%/K	Reference
Resistance	R <sub>s</sub>	152 ± 30%	kΩ	
Temperature Coefficient of R	TCR	0.1	%/K	T <sub>b</sub> = 100°C, T <sub>a</sub> = 0 to 80°C, best fit
Time constant		18	ms	
Nominal Noise Voltage	V <sub>n</sub>	50.0	nV/Hz <sup>½</sup>	
Noise Equivalent Power	NEP	0.94	nW/Hz <sup>½</sup>	
Normalized Detectivity	D*	7.42*10 <sup>7</sup>	cmHz <sup>½</sup> /W	
Thermistor Resistance	R <sub>t</sub>	100	kΩ	T <sub>a</sub> = 25°C
β Value of NTC	β	3950	K	
Field of View		90	°	@50% target signal
Operating temperature		-20~100	°C	
Storage temperature		-40~100	°C	

## Package Information



## Standard Product Packing Form

Stick Magazine – 50pcs per stick magazine