

# THERMOPILE TYPE INFRARED SENSOR

## THERMOPILE

Thermopile type Infrared sensor  
utilizing own silicon micromachining  
technology.

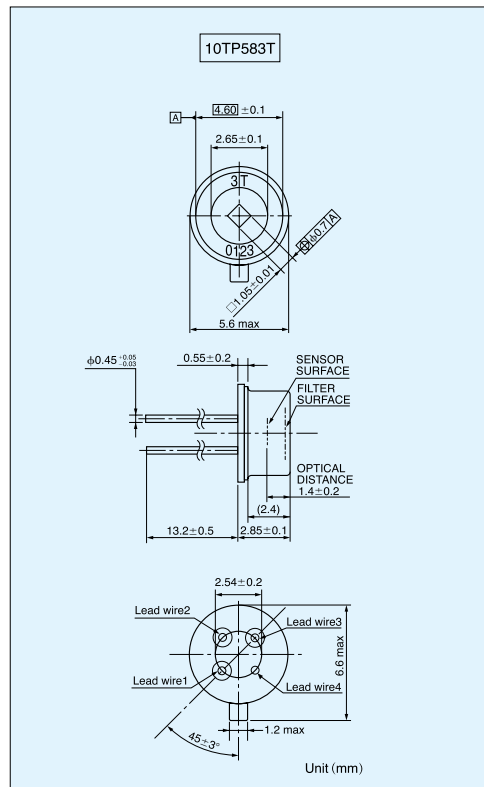
Applications: Tympanic thermometer  
Microwave oven  
Non contact temperature measurement



### Part number

Part No.	type	Thermistor
10TP583T	TO18	Built-in

### Dimensions



### Ratings

Parameters	Value	Unit	Conditions
	10TP583T		
Sensitive area	1.05×1.05	mm <sup>2</sup>	Size of Absorbing Film
*1 Responsivity	15±30%	V/ W	
*1 Output Voltage	200±30%	μV	
*2 Output Voltage	1.00±30%	mV	
*1 Temperature Coefficient of Responsivity	0.02±0.02	% / °C	Reference
Thermopile Resistance	65±30%	kΩ	
Temperature Coefficient of Thermopile Resistance	±0.1	% / °C	
Johnson Noise Voltage	33	nV/ √Hz	Johnson Noise r.m.s.,298K 1Hz Typical
*1 S/N Ratio	75.7	dB	Output Voltage/Johnson Noise, Typical
*1 Noise Equivalent Power	2.2	nW/ Hz <sup>1/2</sup>	Typical
*1 Specific Detectivity	4.7×10 <sup>7</sup>	cm·Hz <sup>1/2</sup> / w	Typical
Time Constant	15	ms	Typical
Operating Temperature range	-20~+100	°C	
Storage Temperature range	-40~+100	°C	
Filter Range	Cut on 5	μm	Standard
Field of View	±50	deg.	Incident Angle to Achieve 50% Responsivity
Insulation Resistance	≥500	MΩ	Application of DC25V
Sealing	≤1×10 <sup>-9</sup>	Pa·m <sup>3</sup> / s	
*3 Thermistor Resistance Value	100±3%	kΩ	Rated Zero-power Resistance Value at 25°C
*3 Thermistor B-Value	3435±0.7%	K	
*3 Thermistor Rated Power	0.5	mW	at 25°C

\*1 Test Condition  
Blackbody Temperature : 500K  
Sensor-Blackbody Distance : 100mm  
Sensor Temperature : 298K  
Aperture size : φ12.7mm

\*2 Test Condition  
Blackbody Temperature : 310K  
Sensor Temperature : 298K

\*3 Built-in Type