PS1185

Thermopile IR-Sensor

The PS1185 is a thermopile IR-Sensor can be used for contactless temperature measurement.
This device can transfer the heat radiation emitted from the objects into a voltage output.

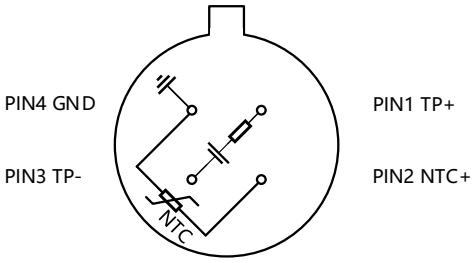
FEATURES

- Good consistence
- High responsivity
- Small TO46 Package

FEATURES TYPICAL APPLICATIONS

- Pyrometers
- Ear Thermometer
- Major Appliance

PIN CONFIGURATIONS



PIN ASSIGNMENTS

PIN	Symbol
1	TP+
2	NTC+
3	TP-
4	GND

PS1185

Electrical and Optical Characteristics

All characteristics apply to PS1185, unless noted otherwise.

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Min	Typical	Max	Units
T_{OP}	Operation Temperature	-30	25	85	°C
T_{ST}	Storage Temperature	-40	25	125	°C

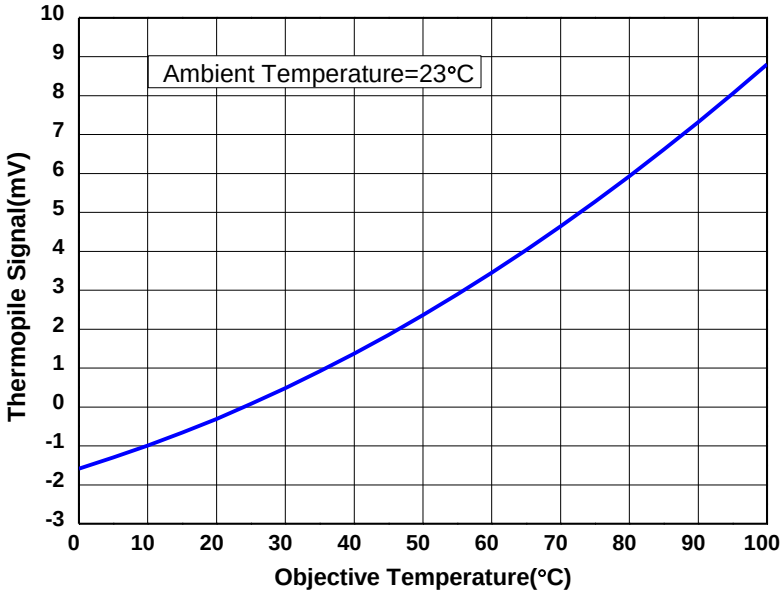
ELECTRICAL CHARACTERISTICS

Ta = 25°C, unless otherwise noted.

Symbol	Parameter	Conditions	Min	Typ	Max	Units
A_S	Element size			1.18*1.18		mm²
A_s	Sensitive area			0.85*0.85		mm²
FOV	Angle	At 50% of maximum signal		100		°
R_{TP}	Thermopile resistance		160	170	180	kΩ
NEV	Noise equivalent voltage		40	42	44	$nV/Hz^{1/2}$
NEP	Noise equivalent power			0.6		$nW/Hz^{1/2}$
RES	Responsivity			110		V/W
TC_R	Thermopile resistance TC			0.06		%/°C
T_R	Time constant			15		ms
De	Detectivity			0.63E08		$cmHz^{1/2}/W$
R_{NTC}	NTC resistance		98	100	102	kΩ
$R_{NTC\text{-}\beta}$	NTC resistance Beta		3940	3950	3990	k

PERFORMANCE CURVES

TYPICAL PERFORMANCE CURVES



γ=0.0005·x^2+0.0539·x-1.5816

Figure 1 Thermopile signal versus objective temperature at 23℃ ambient temperature

OPTICAL CHARACTERISTICS

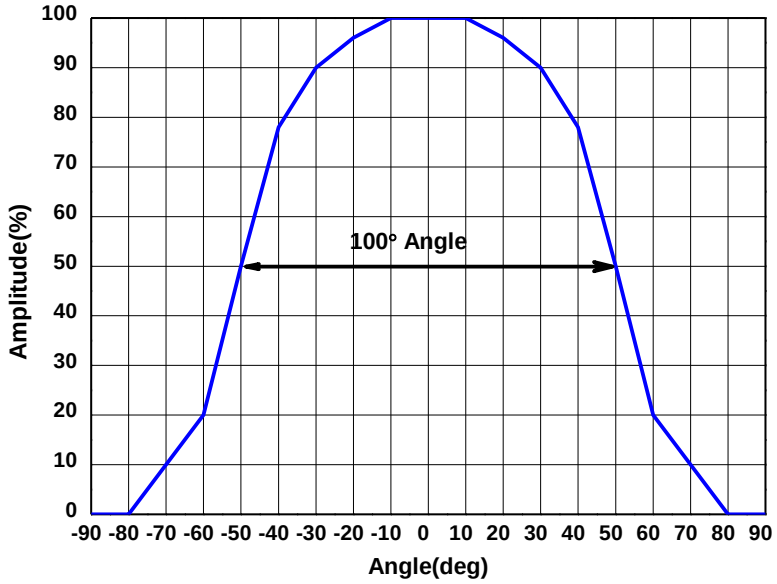


Figure 2: Field of view curve

PERFORMANCE CURVES

FILTER CHARACTERISTICS

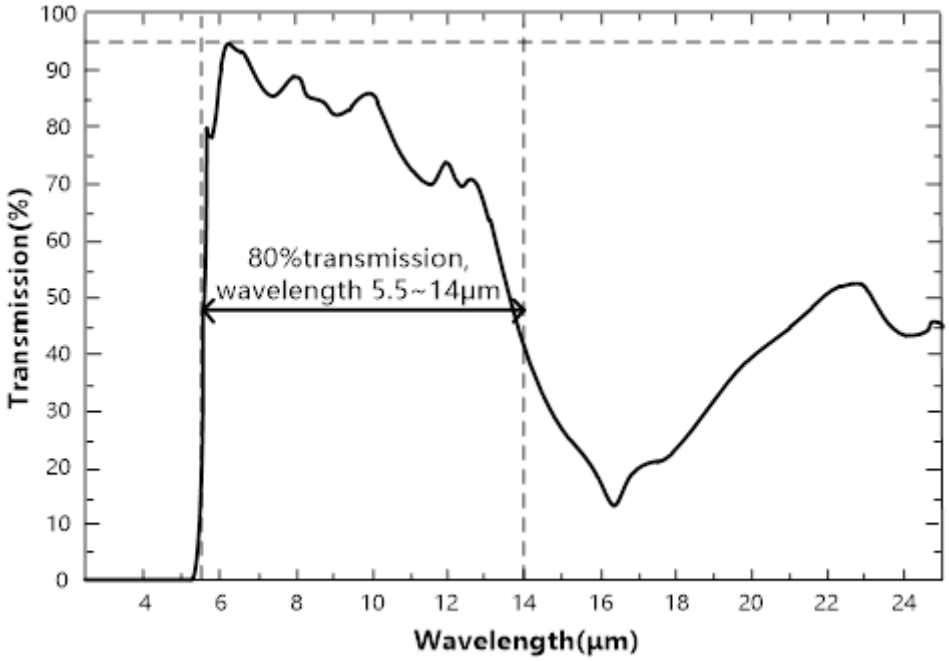


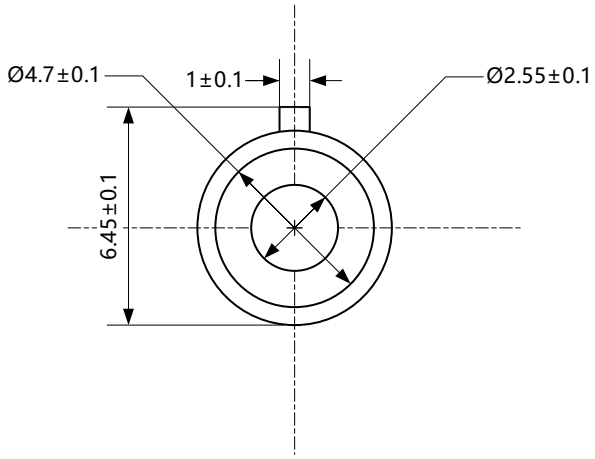
Figure 3: Filter transmission curve

PS1185

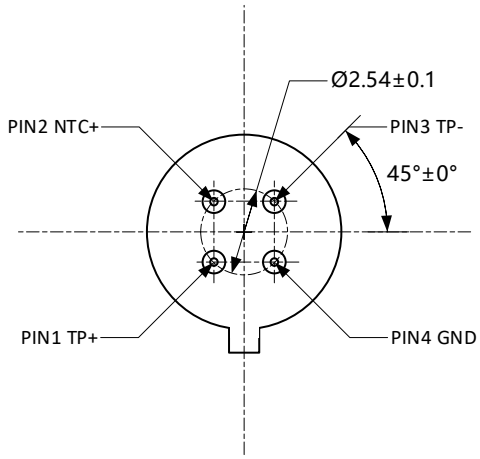
Available Package

MECHANICAL DIMENSIONS

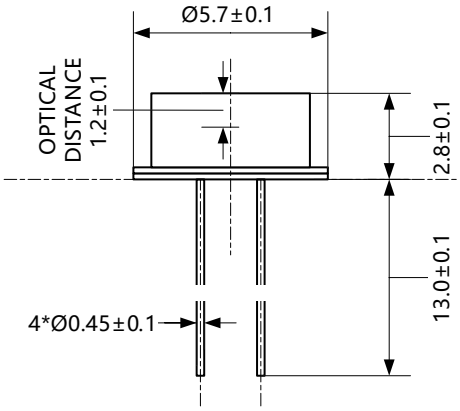
TOP VIEW

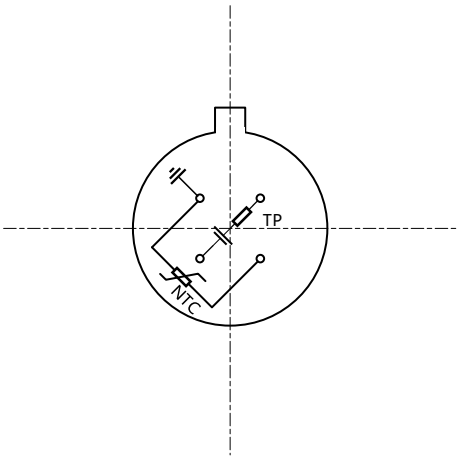


BOTTOM VIEW



SIDE VIEW





Controlling dimensions in millimeters

ORDERING INFORMATION

Part No. PS1185

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PREMA Semiconductor GmbH
Robert-Bosch-Str. 6
55129 Mainz Germany
Phone: +49-6131-5062-0
Fax: +49-6131-5062-220
Email: prema@prema.com Web site: www.prema.com

99 Jinjihu Avenue
215021 Suzhou China
Phone: +86-512-6767-8738
Fax: +86-512-6767-8738
Email: prema@prema.com.cn Web site: www.prema.com.cn