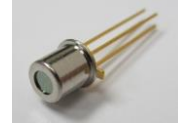


**Thermopile Sensor**  
**OTP-868D2 L3.0**

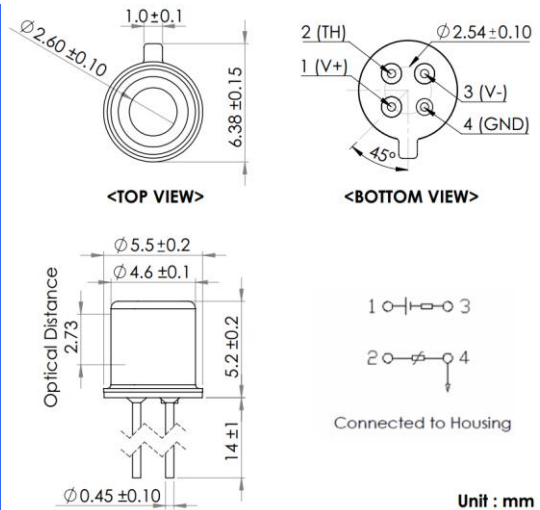
Revision Date: 2018/01/08 (Rev.06)



The OTP-868D2 L3.0 is a thermopile sensor with optical lens. The sensor is composed of 116 elements of thermocouple in series on a floating micro-membrane having an active area of 0.9 mm<sup>2</sup>. The thermopile sensor provides nearly Johnson-noise-limited performance, which can be calculated by its ohmic series resistance. A thermistor with a lead connected to ground is also provided inside the TO package for ambient temperature reference.

- TO-46 metal housing with optical lens
- Small Field of View (FOV); high Distance to Spot ratio (D:S)
- Thermistor reference included
- Low temperature coefficient of sensitivity
- Ideally suited for forehead thermometers, miniature pyrometer.

Parameter	Typ	Unit	Conditions
Operating temperature	-20~100	°C	
Storage temperature	-40~100	°C	
Sensitivity	182	V/W	※1
TC of sensitivity	-0.03	%/K	25°C
Thermopile Voltage	0.8±0.4	mV	※1
Active area	0.9	mm <sup>2</sup>	
Resistance of thermopile	92±28	KΩ	25°C
TC of resistance	0.10±0.05	%/K	25°C
Time constant	24	ms	
Noise voltage	38	nV/Hz <sup>1/2</sup>	r.m.s, 25°C
NEP	0.21	nW/Hz <sup>1/2</sup>	※1
Normalized detectivity (D*)	4.5*10 <sup>8</sup>	cm*Hz <sup>1/2</sup> /W	※1
Thermistor resistance	100±5%	KΩ	25°C
β value	3964±0.5%	K	25°C/100°C
Field of view	20	degree	@50% target signal
Cut on wavelength	5.0±0.3	μm	@25°C, 50% transmittance



※1 Test condition : Tb:50°C, Ta:25°C, 5-14μm filter with lens

