

**Thermopile Sensor**  
**OTP-678D4**

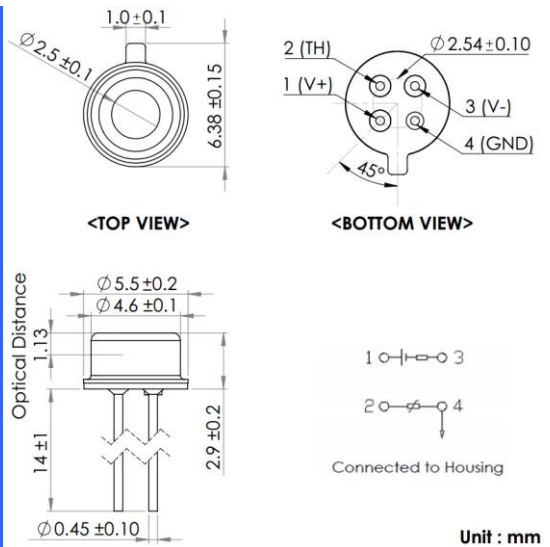
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The OTP-678D4 is a thermopile sensor in classic TO-46 housing. The sensor is composed of 112 elements of thermocouple in series on a floating micro-membrane having an active area of 0.76mm<sup>2</sup>. The thermopile sensor provides nearly Johnson-noise-limited 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 IR absorber coating inside
- Thermistor temperature reference included
- Low temperature coefficient of sensitivity
- Ideally suited for ear thermometers, miniature pyrometer.

Parameter	Typ	Unit	Conditions
Operating temperature	-20~100	°C	
Storage temperature	-40~100	°C	
Sensitivity	26	V/W	※1
TC of sensitivity	0.12±0.04	%/K	25°C
Thermopile voltage	1.6±0.5	mV	※1
Active area	0.76	mm <sup>2</sup>	
Resistance of thermopile	70±20	KΩ	25°C
TC of resistance	0.12±0.05	%/K	25°C
Time constant	16	ms	
Noise voltage	34	nV/Hz <sup>1/2</sup>	r.m.s, 25°C
NEP	1.29	nW/Hz <sup>1/2</sup>	※1
Normalized detectivity (D*)	6.8*10 <sup>7</sup>	cm <sup>2</sup> 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	90	°	@50% target signal
Cut on wavelength	8±0.3	μm	@25°C, 50% transmittance



※1 Test condition : Tb:50°C, Ta:25°C, 8-14μm filter

