

# Thermopile Sensor

## OTP-668D2

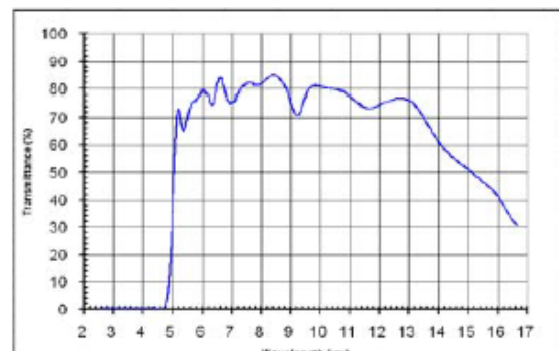
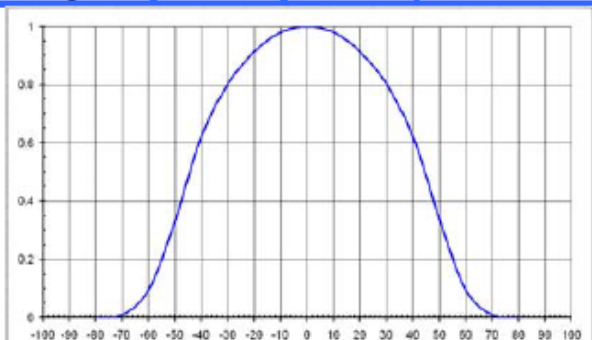
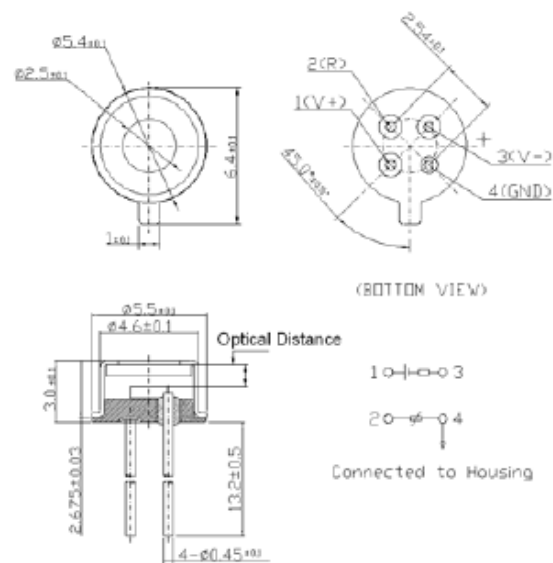
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The OTP-668D2 is a thermopile sensor in classic TO-46 housing. The sensor is composed of 116 elements of thermocouple in series on a floating micro-membrane having an active area of diameter 700 μm. The thermopile sensor provides nearly Johnson-noise-limited 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 reference included
- Low temperature coefficient of sensitivity
- Ideally suited for ear thermometers, miniature pyrometer.

Parameter	Typ	Unit	Conditions
Sensitivity	46	V/W	500K, 5-14μm
TC of sensitivity	0.22±0.05	%/K	25°C-75°C
Thermopile Voltage	2.6±0.8	mV	Tb:50°C, Ta:25°C 5-14μm
Active area in diameter	0.7	mm	
Resistance of thermopile	115±25	KΩ	25°C
TC of resistance	0.11±0.05	%/K	25°C-75°C
Time constant	16	ms	
Noise voltage	43	nV/Hz <sup>1/2</sup>	r.m.s 300K
NEP	0.95	nW/Hz <sup>1/2</sup>	500K, 5-14μm
Normalized detectivity (D*)	0.65*10 <sup>8</sup>	cm*Hz <sup>1/2</sup> /W	500K, 5-14μm
Thermistor resistance	100±3%	KΩ	25°C
β value	3964±0.5%	K	25°C-85°C
Field of view	90	°	@ 50% target signal
Cut on wavelength	5.0±0.3	μm	@ 25°C, 50% transmittance



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