



The OTP-667F2R is a thermopile sensor in classic TO-5 housing. The sensor is composed of 116 elements of thermocouple in series on a floating micro-membrane having an active area of $900 \times 900 \mu\text{m}^2$. The thermopile sensor provides nearly Johnson-noise-limited performance, which can be calculated by its ohmic series resistance. A RTD on chip, with a lead connected to ground, is also provided inside the TO package for ambient temperature reference.

- TO-5 metal housing with IR absorber coating inside
- RTD temperature reference included
- Low temperature coefficient of sensitivity
- Ideally suited for ear thermometers, miniature pyrometer.

Parameter	Typ	Unit	Conditions
Sensitivity	46	V/W	500K, 5-14 μm
TC of sensitivity	0.22 ± 0.05	%/K	25 $^{\circ}\text{C}$ -75 $^{\circ}\text{C}$
Thermopile Voltage	1.7 ± 0.5	mV	Tb:50 $^{\circ}\text{C}$, Ta:25 $^{\circ}\text{C}$ 5-14 μm
Sensitivity area	0.9 x 0.9	mm ²	
Resistance of thermopile	115 ± 25	K Ω	25 $^{\circ}\text{C}$
TC of resistance	0.11 ± 0.05	%/K	25 $^{\circ}\text{C}$ -75 $^{\circ}\text{C}$
Time constant	16	ms	
Noise voltage	43	nV/Hz ^{1/2}	r.m.s 300K
NEP	0.95	nW/Hz ^{1/2}	500K, 5-14 μm
Normalized detectivity (D*)	0.9×10^8	cm ² Hz ^{1/2} /W	500K, 5-14 μm
RTD resistance	910 ± 8	Ω	0 $^{\circ}\text{C}$
TC of Resistance	3220 ± 100	ppm/ $^{\circ}\text{C}$	0 $^{\circ}\text{C}$ -50 $^{\circ}\text{C}$
Field of view	100	$^{\circ}$	At 50% target signal
Cut on wavelength	5.0 ± 0.3	μm	At 25 $^{\circ}\text{C}$, 50% transmittance

