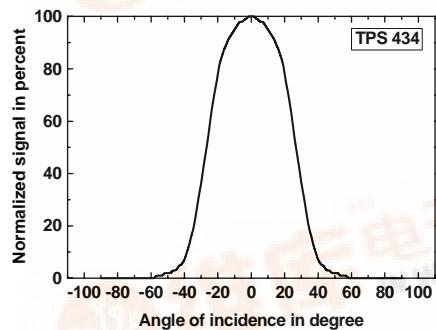
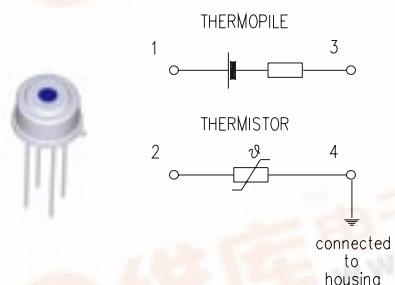
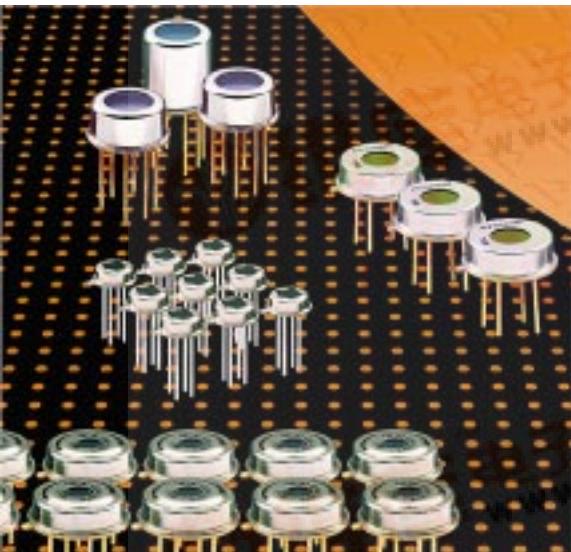


Thermopile Infrared Detectors

Thermopile Detector TPS 434

Extremely small absorber size – for high precision pyrometers

Thermistor temperature reference included

Low temperature coefficient of sensitivity

Applications: ear thermometers and pyrometers

The **TPS 434** thermopile sensor in TO 5 type housing employs a chip of $0.5 \times 0.5 \text{ mm}^2$ absorber size and a $30 \text{ k}\Omega$ thermistor as temperature reference. The round window opening is equipped with a 5.5 mm longpass (standard) infrared filter. The sensor shows a flat sensitivity characteristic over the wavelength.

The **TPS 434** can be equipped with a G9 ($8\ldots14 \mu\text{m}$) filter for precision pyrometers (TPS 434 G9).

Parameters	TPS 434	typical	units	condition
Sensitive area	0.5×0.5	mm^2		absorbing area
Window size	2.5	mm		diameter
DC sensitivity	35	V/W		500K BB 5..14μm
Resistance	35	$\text{k}\Omega$		
Noise	21	$\text{nV}/\sqrt{\text{Hz}}$		r.m.s. 300K,
NEP	0.6	$\text{nW}/\sqrt{\text{Hz}}$		500K BB 5..14μm
D*	0.84×10^8	$\text{cm}/\text{Hz}/\text{W}$		500K BB 5..14μm
TC of sensitivity	0.02	%/K		
TC of resistance	0.02	%/K		
Time constant	20	ms		
Storage temperature	-40	100	°C	non permanent
Operating temperature	-40	100	°C	non permanent
Thermistor resistance	30	$\text{k}\Omega$		25°C
beta	3964	K		25°C/100°C
Field of view	55			at 50% points

