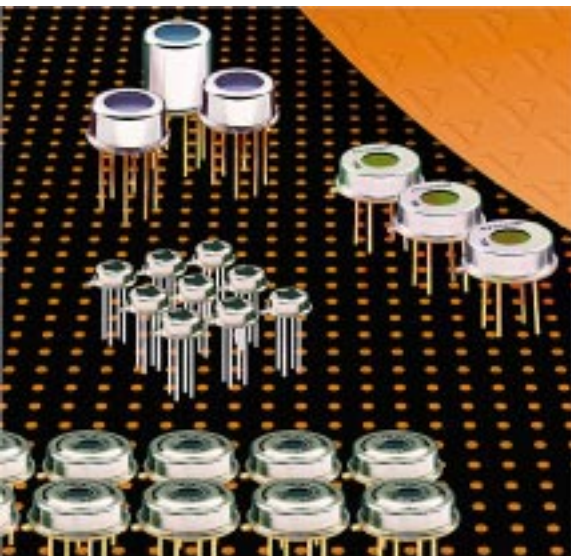


Thermopile Infrared Detectors

Thermopile Detector TPS 434

Extremely small absorber size – for high precision pyrometers

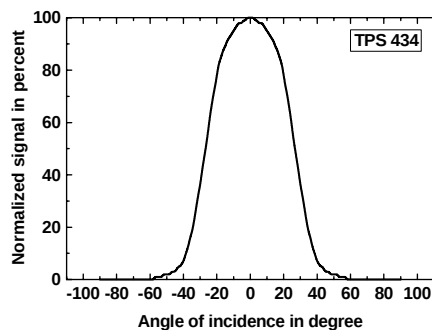
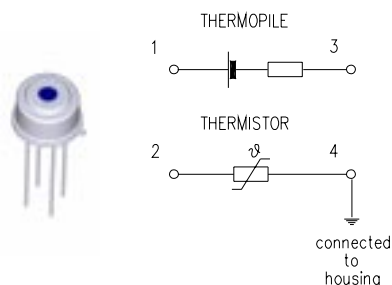
Thermistor temperature reference included

Low temperature coefficient of sensitivity

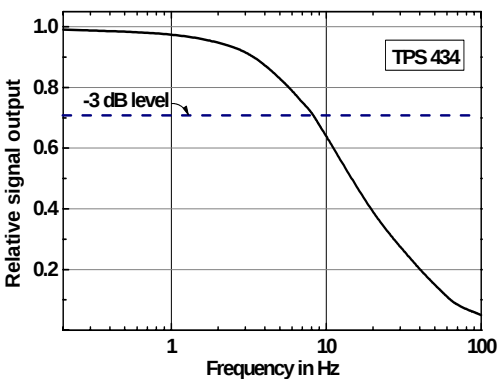
Applications: ear thermometers and pyrometers

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 ($8\ldots 14 \mu\text{m}$) filter for precision pyrometers (TPS 434 G9).



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Parameters	TPS 434		
	typical	units	condition
Sensitive area	0.5 x 0.5	mm ²	absorbing area
Window size	2.5	mm	diameter
DC sensitivity	35	V/W	500K BB 5..14μm
Resistance	35	kΩ	
Noise	21	nV/√Hz	r.m.s. 300K,
NEP	0.6	nW/√Hz	500K BB 5..14μm
D*	0.84×10^8	cm√Hz/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	kΩ	25°C
beta	3964	K	25°C/100°C
Field of view	55	°	at 50% points

