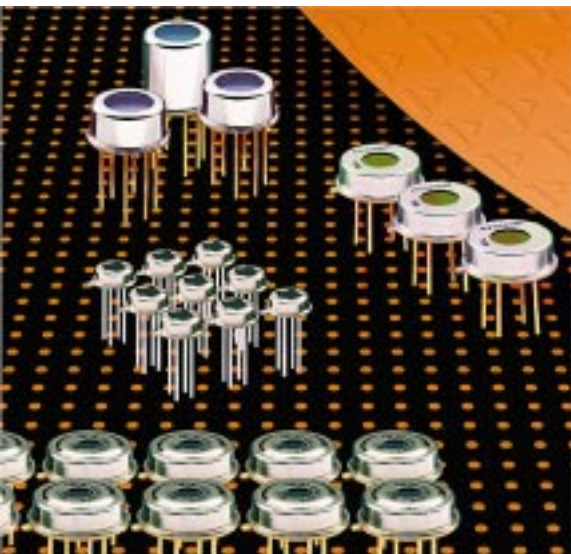


Thermopile Infrared Detectors

# Thermopile Detector **TPS 434**



**Extremely small absorber size – for high precision pyrometers**

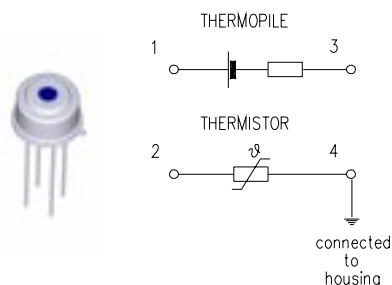
**Thermistor temperature reference included**

**Low temperature coefficient of sensitivity**

**Applications: ear thermometers and pyrometers**

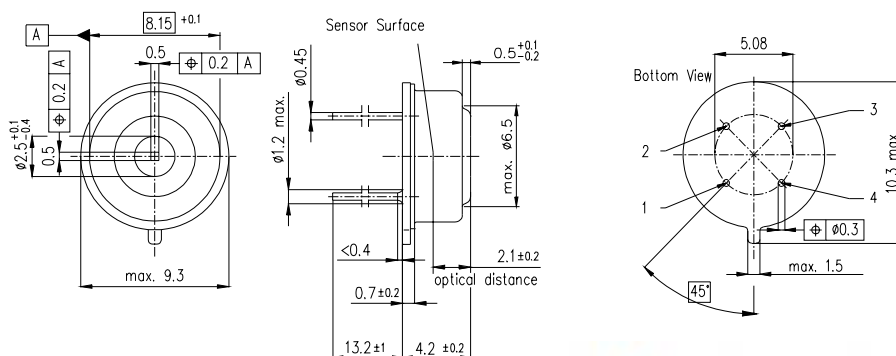
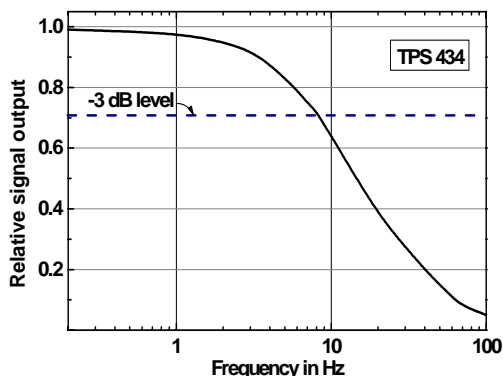
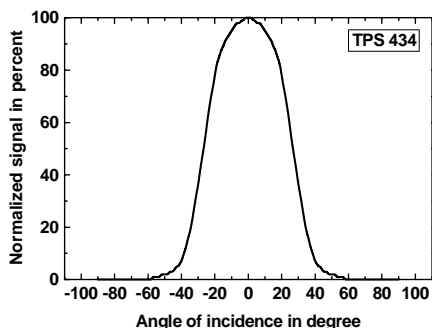
The **TPS 434** thermopile sensor in TO 5 type housing employs a chip of 0.5 x 0.5 mm<sup>2</sup> absorber size and a 30 kΩ thermistor as temperature reference. The round window opening is equipped with a 5.5 mm longpass (standard) infrared filter. The sensor shows a flat sensitivity characteristic over the wavelength.

The **TPS 434** can be equipped with a G9 (8...14 μm) filter for precision pyrometers (TPS 434 G9).



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

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