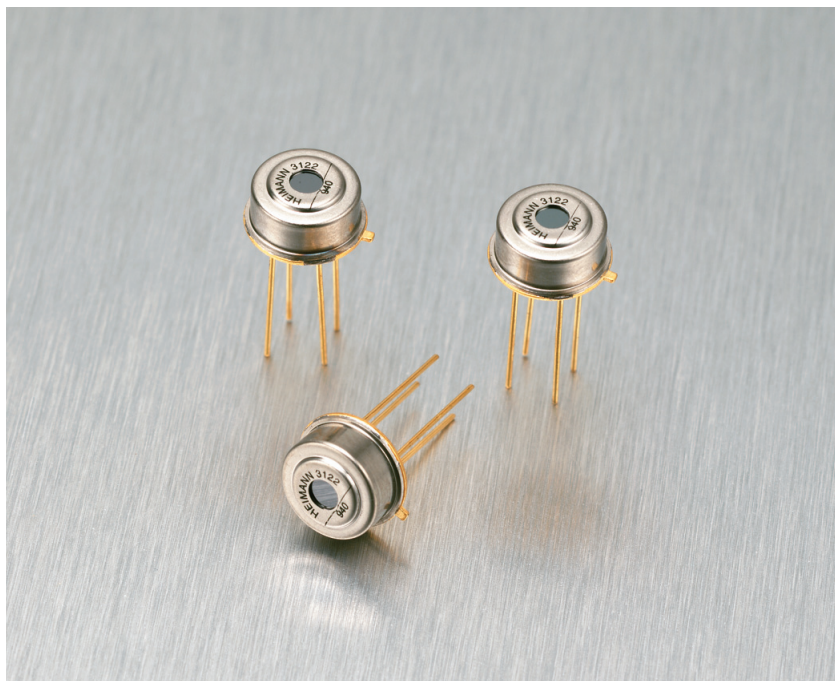


TPS 434 - Thermopile Detector

Extremely Small Absorber Size



Description

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

Features

- Extremely Small Absorber Size - for High Precision Pyrometers
- Thermistor Temperature Reference included
- Low Temperature Coefficient of Sensitivity
- Applications: Ear Thermometers and Pyrometers

TPS 434 - Thermopile Detector Extremely Small Absorber Size

Figure 1. Package Drawing

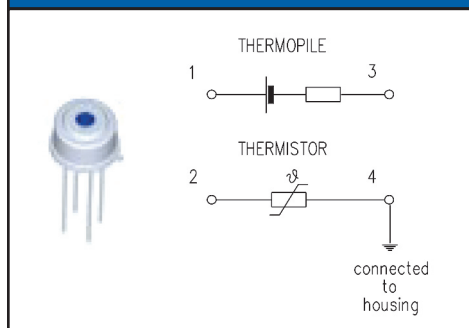


Figure 2.

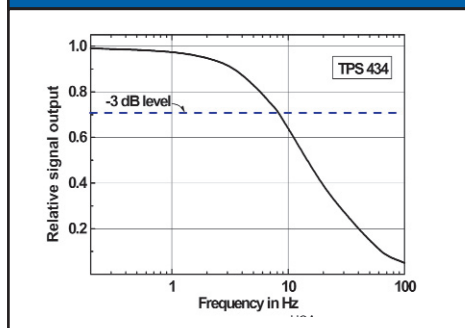


Figure 3.

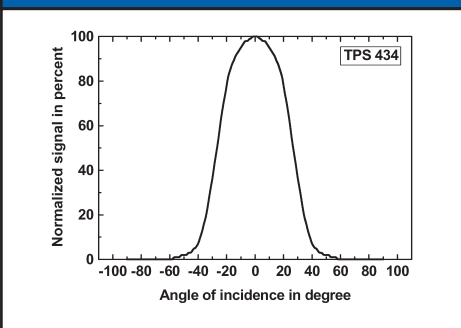


Figure 4. Top View Package Dimension

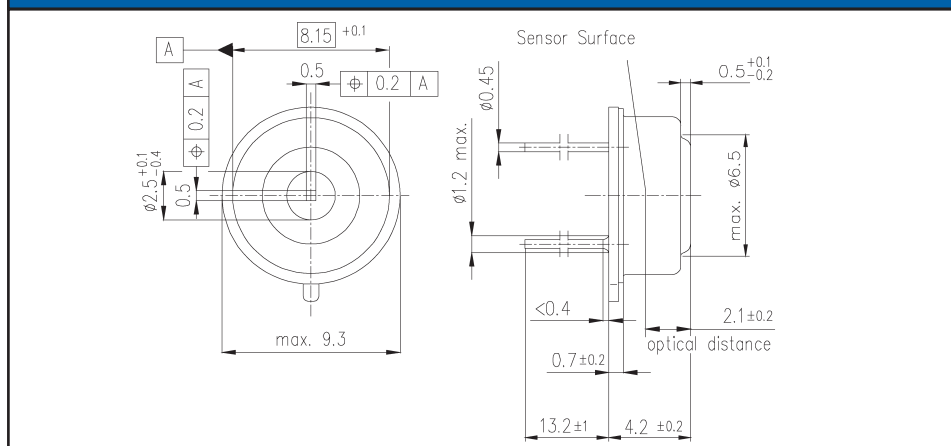


Figure 5. Bottom View

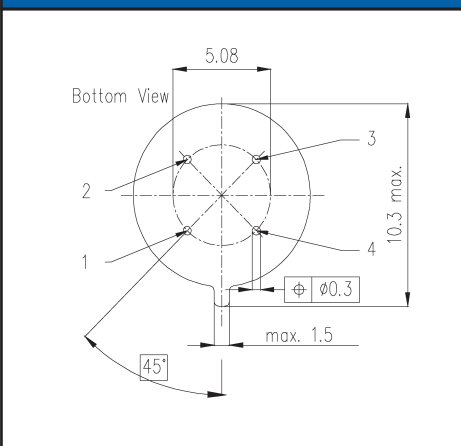


Table 1. TPS 434

Parameter	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 x 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	
Operating temperature	-40 to 100	°C	non permanent
Storage temperature	-40 to 100	°C	non permanent
Thermistor resistance	30	kΩ	25°C
beta	3964	K	25°C/100°C
Field of view	55	°	at 50% points