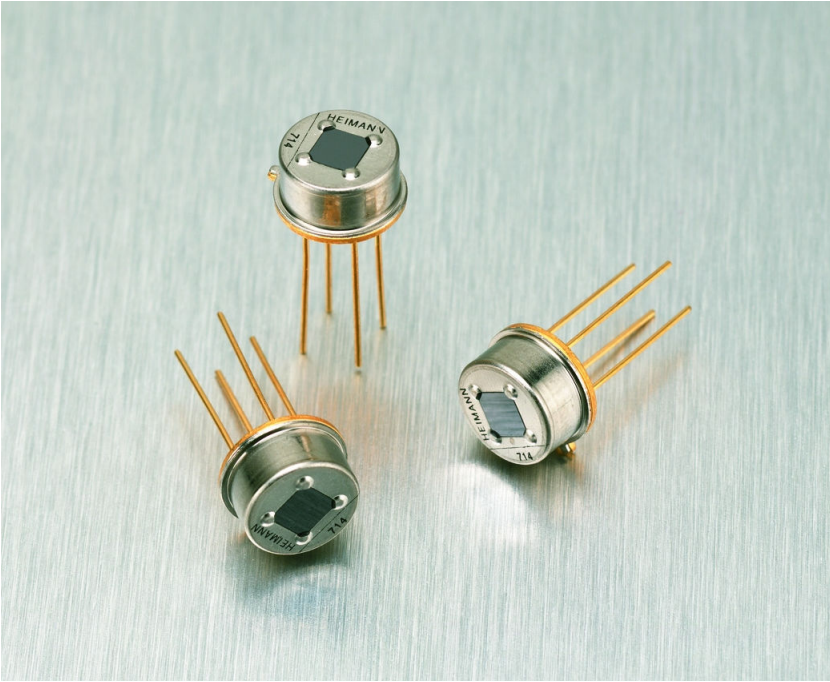


TPS 535 - Thermopile Detector

Large Absorber Size



Description

The **TPS 535** thermopile sensor in a TO 5 type housing employs a chip of $1.2 \times 1.2 \text{ mm}^2$ absorber size and a $30 \text{ k}\Omega$ thermistor as temperature reference. The square window opening is equipped with a $5.5 \mu\text{m}$ longpass (standard) infrared filter. The sensor shows a flat sensitivity characteristic over the wavelength.

The TPS 535 can also be equipped with infrared bandpass filters for NDIR gas detection.

Features

- Large Absorber Size - High Signal Output
- Low Temperature Coefficient of Sensitivity
- Applications: Ear Thermometer, Gas Detectors (with Additional Infrared Bandpass Filter)

Figure 1. Package Drawing

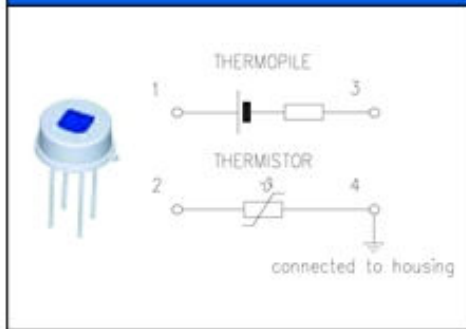


Figure 2.

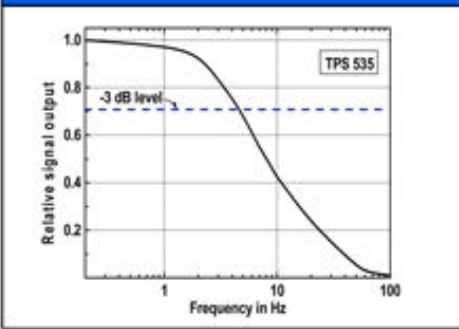


Figure 3.

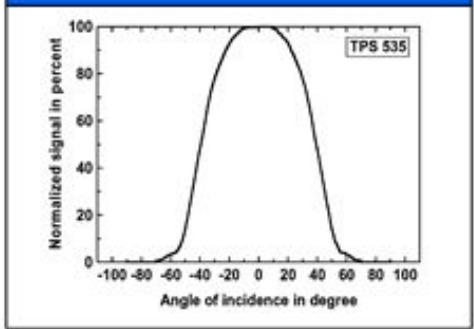


Figure 4. Top View Package Dimension

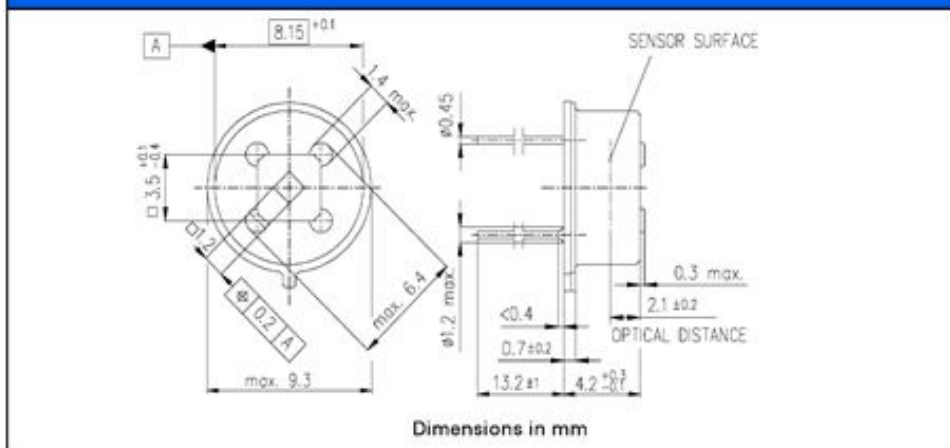


Figure 5. Bottom View

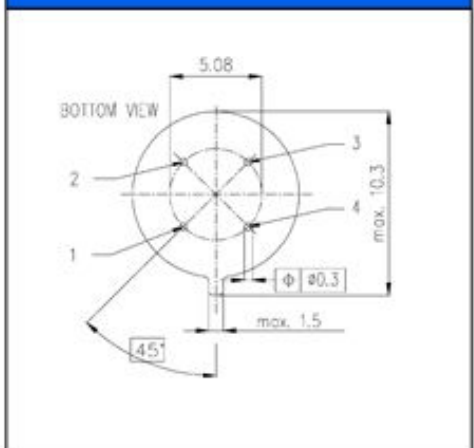


Table 1. TPS 534

Parameter	Typical	Units	Condition
Sensitive area	1.2 x 1.2	mm ²	absorbing area
Window size	3.5 x 3.5	mm	
DC sensitivity	20	V/W	500K BB 5 ... 14μm
Resistance	40	kΩ	
Noise	25	nV/√Hz	r.m.s. 300K
NEP	1.26	nW/√Hz	500K BB 5 ... 14μm
D*	0.96 x 10 ⁸	cm√Hz/W	500K BB 5 ... 14μm
TC of sensitivity	-0.01	%/K	
TC of resistance	0.02	%/K	
Time constant	35	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	80	°	at 50% points

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 All values are nominal; specifications subject to change without notice.

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