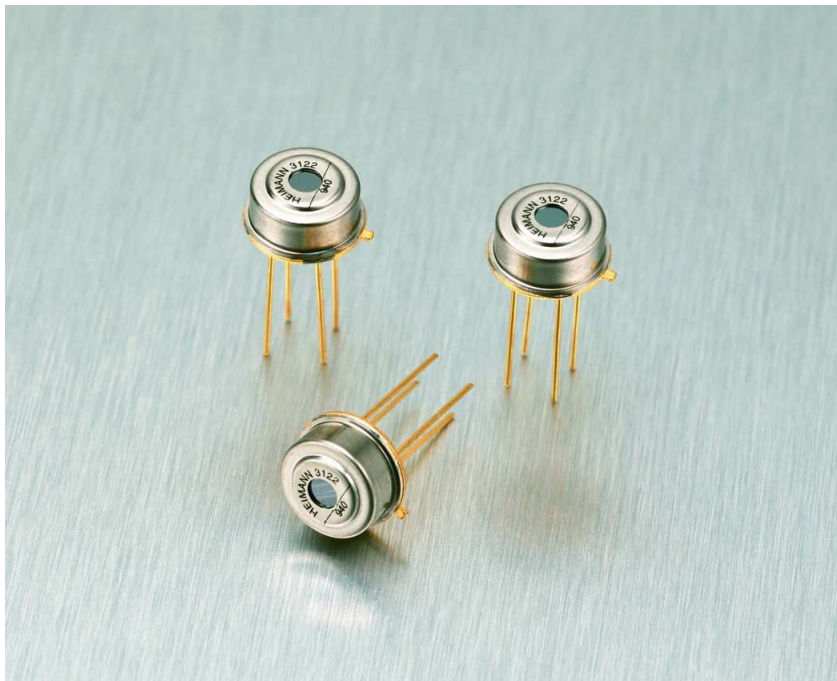


# TPS 334 - Thermopile Detector

## Small Absorber Size



### Description

The **TPS 334** thermopile sensor in TO 5 type housing employs a chip of  $0.7 \times 0.7 \text{ mm}^2$  absorber size and a  $30 \text{ k}\Omega$  thermistor as a temperature reference. The round window opening is equipped with a  $5.5 \text{ }\mu\text{m}$  longpass (standard) infrared filter. The sensor shows a flat sensitivity characteristics over the wavelength.

The TPS 334 can be equipped with a G9 ( $8 \dots 14 \text{ }\mu\text{m}$ ) filter for precision remote temperature sensing (TPS 334 G9).

### Features

- Small Absorber Size - Best Suited for Temperature Measurement Applications
- Standard Size for Pyrometers and Ear Thermometers

## TPS 334 - Thermopile Detector Small Absorber Size

Figure 1. Package Drawing

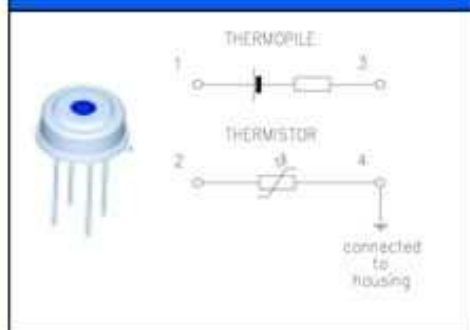


Figure 2.

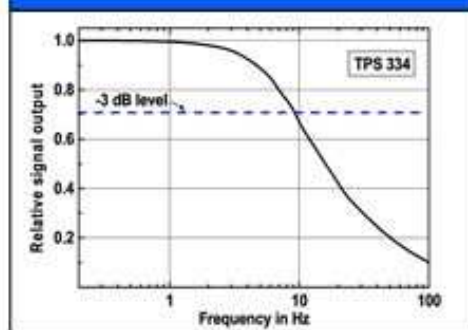


Figure 3.

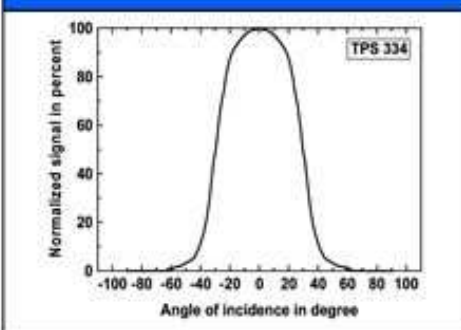


Figure 4. Top View Package Dimension

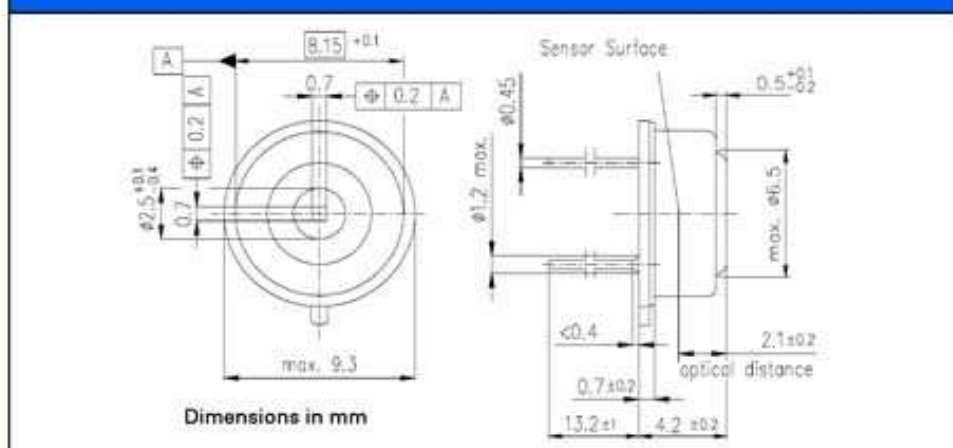


Figure 5. Bottom View

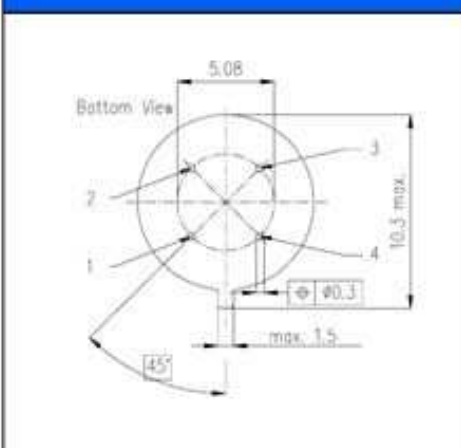


Table 1. TPS 334

| Parameter             | Typical               | Units           | Condition         |
|-----------------------|-----------------------|-----------------|-------------------|
| Sensitive area        | 0.7 x 0.7             | mm <sup>2</sup> | absorbing area    |
| Window size           | 2.5                   | mm              | diameter          |
| DC sensitivity        | 35                    | V/W             | 500K BB 5 .. 14μm |
| Resistance            | 75                    | kΩ              |                   |
| Noise                 | 38                    | nV/√Hz          | r.m.s. 300K       |
| NEP                   | 1.2                   | nW/√Hz          | 500K BB 5 .. 14μm |
| D*                    | 0.6 x 10 <sup>8</sup> | cm√Hz/W         | 500K BB 5 .. 14μm |
| TC of sensitivity     | 0.02                  | %/K             |                   |
| TC of resistance      | 0.02                  | %/K             |                   |
| Time constant         | 25                    | 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         | 60                    | °               | at 50% points     |

For more information e-mail us at [opto@excelitas.com](mailto:opto@excelitas.com) or visit our website at [www.excelitas.com/](http://www.excelitas.com/)

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

North America:  
Excelitas Technologies  
16800 Trans-Canada Highway  
Kirkland, Quebec J7V 8P7 Canada  
Toll Free: (877) 734-OPTO (6786)  
Phone: +1-450-424-3300  
Fax: +1-450-424-3411

Europe:  
Wenzel-Jaksch-Str. 31  
D-65199 Wiesbaden, Germany  
Phone: +49-611-492-430  
Fax: +49-611-492-165

Asia:  
47 Ayer Rajah Crescent #06-12  
Singapore 139947  
Phone: +65-6770-4366  
Fax: +65-6775-1008

**EXCELITAS**  
TECHNOLOGIES