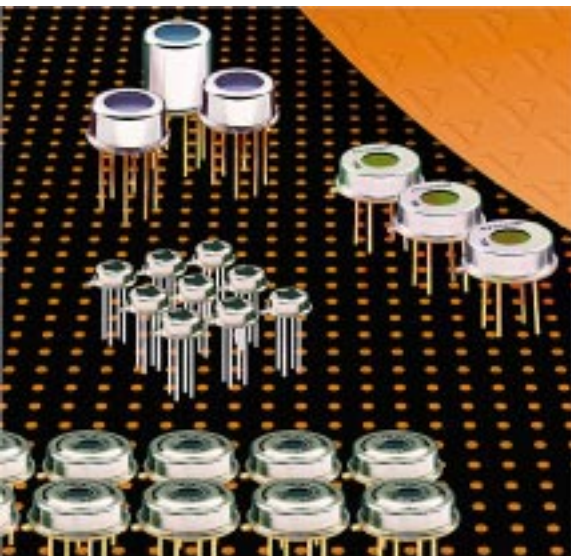


# Dual Channel Thermopile TPS 2534



**Two thermopiles with individual infrared filters**

**Thermistor temperature reference included**

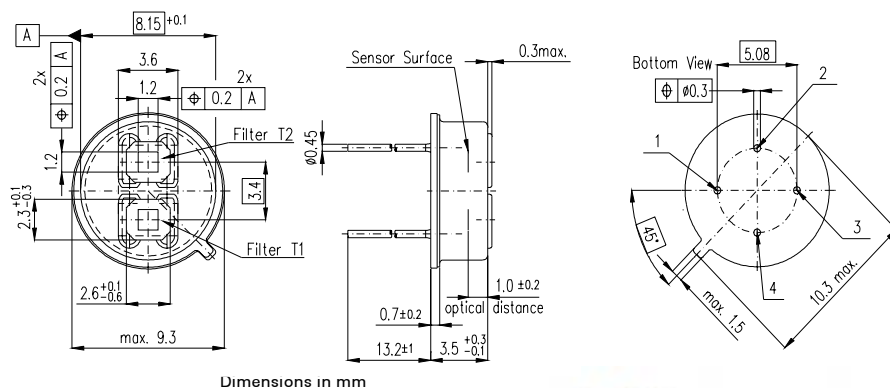
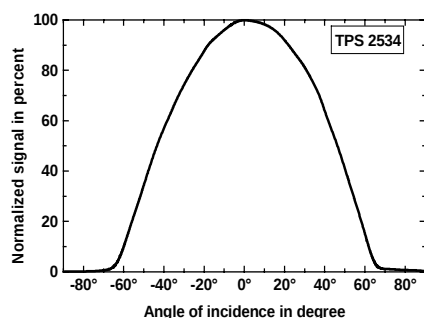
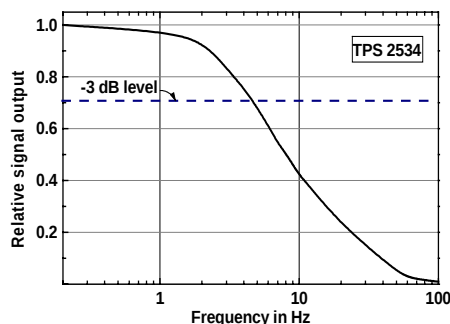
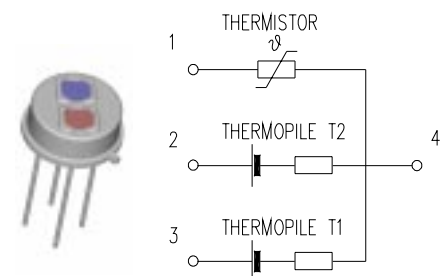
**Applications: infrared absorption (NDIR) gas sensing with reference channel**

The dual thermopile sensor **TPS 2534** employs two single thermopile chips mounted in a TO 5-type housing with a 30 k $\Omega$  thermistor as temperature reference. The cap has two windows of size 2.3 x 2.6 mm<sup>2</sup> each which can be equipped with different infrared bandpass filters. The sensor is perfectly suited to gas detection by IR absorption.

For further information please refer to the TPS 2534 product note.

| Parameters                   |     | TPS 2534              |                         |                    |
|------------------------------|-----|-----------------------|-------------------------|--------------------|
|                              |     | typical               | units                   | condition          |
| <b>Sensitive area</b>        | 2x  | 1.2 x 1.2             | mm <sup>2</sup>         | absorbing area     |
| <b>Window size</b>           |     | 2.3 x 2.6             | mm <sup>2</sup>         | each channel       |
| <b>DC sensitivity</b>        |     | 42                    | V/W                     | 500K BB w/o filter |
| <b>Resistance</b>            |     | 30                    | k $\Omega$              |                    |
| <b>Noise</b>                 |     | 30                    | nV/ $\sqrt{\text{Hz}}$  | r.m.s. 300K        |
| <b>NEP</b>                   |     | 10.7                  | nW/ $\sqrt{\text{Hz}}$  | 500K BB w/o filter |
| <b>D*</b>                    |     | 2.3 x 10 <sup>8</sup> | cm $\sqrt{\text{Hz/W}}$ | 500K BB w/o filter |
| <b>TC of sensitivity</b>     |     | -0.01                 | %/K                     |                    |
| <b>TC of resistance</b>      |     | 0.02                  | %/K                     |                    |
| <b>Time constant</b>         |     | 35                    | ms                      |                    |
| <b>Operating temperature</b> | -40 | 100                   | °C                      | non permanent      |
| <b>Storage temperature</b>   | -40 | 100                   | °C                      | non permanent      |
| <b>Thermistor resistance</b> |     | 30                    | k $\Omega$              | 25°C               |
| <b>beta</b>                  |     | 3964                  | K                       | 25°C/100°C         |
| <b>Field of view</b>         | 2x  | 90                    | °                       | at 50% points      |

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Europe:  
**PerkinElmer** Optoelectronics GmbH  
 Wenzel Jaksch Str 31  
 Wiesbaden / Germany  
 Phone +49(0)611 492 0  
 Fax +49(0)611 492 170

USA:  
**PerkinElmer** Optoelectronics  
 2175 Mission College Blvd  
 Santa Clara, CA 95054  
 Phone +408 565 0830  
 Fax +408 565 0703

Asia:  
**PerkinElmer** Optoelectronics  
 47, Ayer Rajah Crescent #06-12  
 Singapore 139947  
 Phone +65 775 2022  
 Fax +65 775 1008

**PerkinElmer**  
 optoelectronics