# **TPS 4339 - Quad Thermopile**

Four Individual Thermopiles with Different Infrared Bandpass Filters



### Description

The **TPS 4339** quad thermopile sensor consists of four single thermopile chips mounted in a TO 5 housing with a thermistor as temperature reference. The window size is  $1.5 \times 1.5 \text{ mm}^2$ each. Due to the overall small sensor size the construction of a very compact equipment becomes possible.

Applications in automotive exhaust gas control, multiple gas detection for the safety product market or air quality monitoring.

For further information please refer to the TPS 4339 product note.

### Features

- Four Individual Thermopiles with Different Infrared Bandpass Filters in TO 5 Housing for NDIR Gas Sensing - up to 4 gases possible
- Thermistor Temperature Reference included
- Internal Aperture to Avoid Cross Talk
- Standard Gas Filter Sets for Reference, CO, Hydrocarbon, CO<sub>2</sub>



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#### Figure 3. 1.0 TPS4339 0.8 0.6 0.4 0.2 0.0 -80 -60 -40 -20 0 20 40 60 80 Incidence angle in degree

Figure 5. Bottom View

**⊕** Ø0.3

GND

T4

Ø5.84

BOTTOM VIEW

max.

10.3

R1

max. 1.0

### Figure 4. Top View Package Dimension



#### Table 1. TPS 4339

Parameter		Typical	Units	Condition
Sensitive area		4x 0.7 x 0.7	mm <sup>2</sup>	absorbing area
Window size		1.5 x 1.5	mm <sup>2</sup>	each channel
DC sensitivity		75	V/W	500K BB w/o filter
Resistance		75	kΩ	
Noise		21	nV/√Hz	r.m.s. 300K
NEP		0.28	nW/√Hz	500K BB w/o filter
D*		1.6 x 10 <sup>8</sup>	cm√Hz/W	500K BB w/o filter
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	100	kΩ	25°C
	beta	3964	К	25°C/100°C
Field of view		60	0	at 50% points

For more information e-mail us at opto@perkinelmer.com or visit our website at www.perkinelmer.com/optoelectronics All values are nominal; specifications subject to change without notice.

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