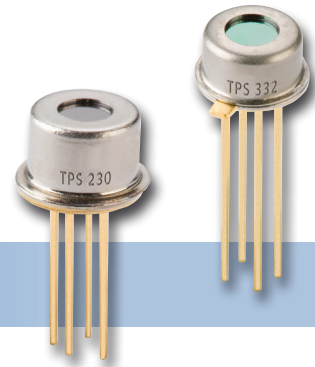


# ISOTHERMAL MINIATURE THERMOPILE DETECTORS FOR INFANT EAR THERMOMETRY

THERMOPILE DETECTORS FOR THERMOMETRY ■



## TPD 0120, TPD 0122 Thermopile

### Applications

- Ear thermometry
- General purpose thermometry

### Features and Benefits

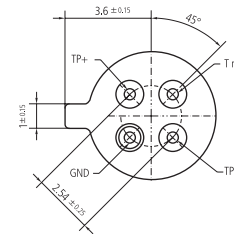
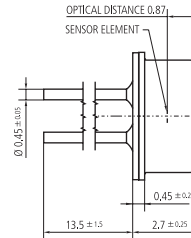
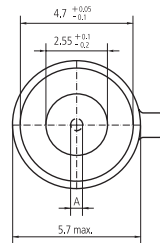
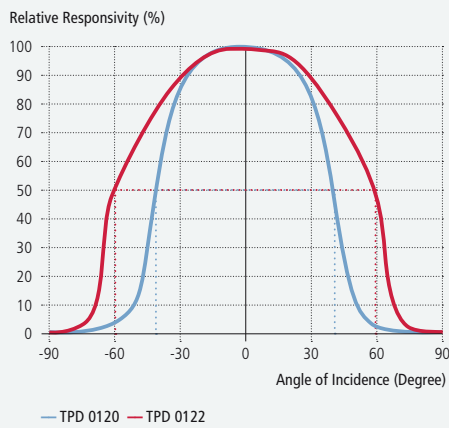
- Miniature TO-type metal housing
- Thermistor included

### Product Description

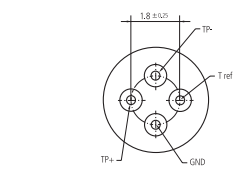
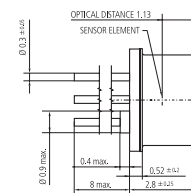
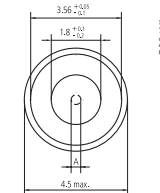
This is our range of miniature thermopile detectors tailored for infant ear thermometers.

The TPD 0120 is the smallest detector in a 3.56 mm diameter TO-41 housing, the TPD 0122 is featured in a 4.7 mm diameter TO-46 type housing with a round window, which also serves as an aperture. Both types are equipped as standard with an internal thermistor as temperature reference for thermopile temperature compensation.

### Field of View



TPD 232



TPD 230

### TPD 0120, TPD 0122 Thermopile

Parameter	Symbol	0120	0122	Unit	Remark
Sensitive area	A	∅ 0.5	∅ 0.5	mm	Absorber area
Sensitive area	A	0.2	0.2	mm <sup>2</sup>	Absorber area
Thermopile resistance	R <sub>TP</sub>	85 ... 135	85 ... 135	kΩ	25° C
Responsivity	R	77	77	V/W	500° / 1Hz/ without IR-filter
Sensitivity (T <sub>det</sub> 25° C / T <sub>obj</sub> 40° C)	S <sub>40</sub>	30	43	μV/K	With standard filter (LWP, cut-on 5.5 μm)
Sensitivity (T <sub>det</sub> 25° C / T <sub>obj</sub> 100° C)	S <sub>100</sub>	39	56	μV/K	With standard filter (LWP, cut-on 5.5 μm)
Time constant	t	15	15	ms	
Noise voltage	V <sub>N</sub>	42	42	nV / √Hz	25° C
Specific detectivity	D*	0.8	0.8	10 <sup>8</sup> cm <sup>2</sup> /Hz / W	25° C
Temp. coefficient of resistance	TC <sub>RTP</sub>	0.03	0.03	% / K	
Temp. coefficient of responsivity	TC <sub>R</sub>	-0.05	-0.05	% / K	
Field of view	FoV	82	120	Degrees	At 50% intensity points
Thermistor resistance (25° C)	R <sub>25</sub>	100	100	kΩ	25° C
Thermistor BETA-value	β	3964	3964	K	Defined at 25° C / 100° C