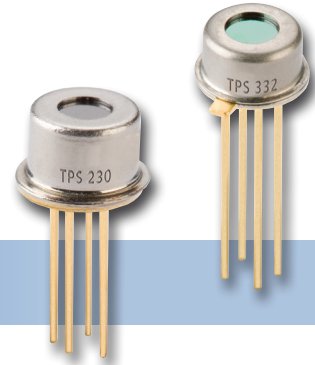


ISOTHERMAL MINIATURE THERMOPILE DETECTORS FOR INFANT EAR THERMOMETRY



TPD 0120, TPD 0122 Thermopile

Applications

- Ear thermometry
- General purpose thermometry

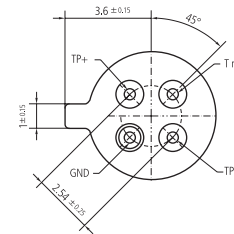
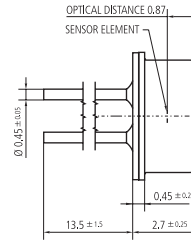
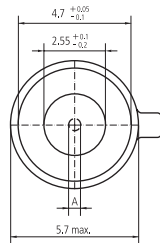
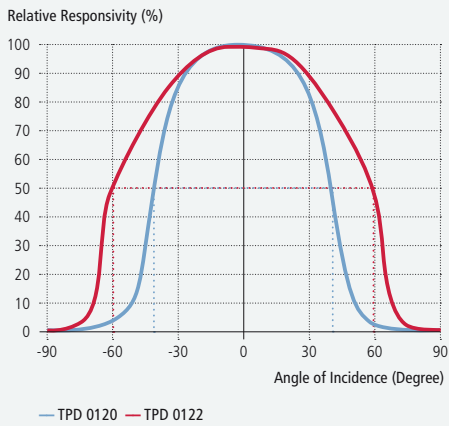
Features and Benefits

- Miniature TO-type metal housing
- Thermistor included

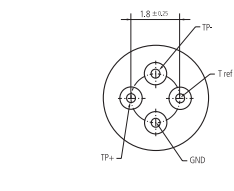
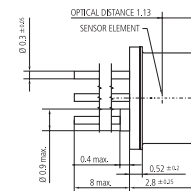
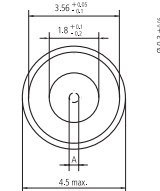
Product Description

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