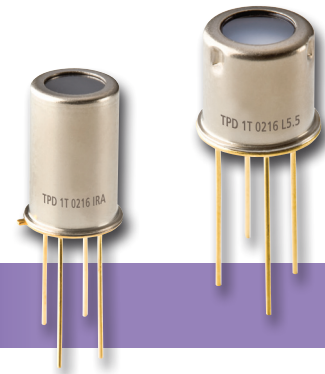


THERMOPILE DETECTORS WITH INTEGRAL OPTICS



TPD 1T 0226 IRA, TPD 1T 0226 L5.5 – Thermopile

Applications

- Non-contact temperature measurements
- Thermometry

Features and Benefits

- TO-type metal housing
- Optics included
- Thermistor included

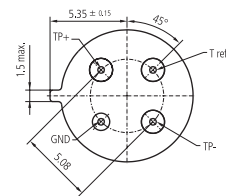
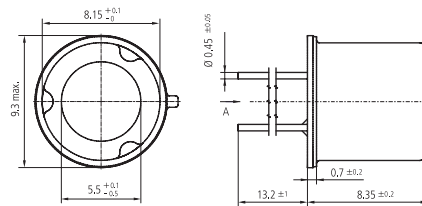
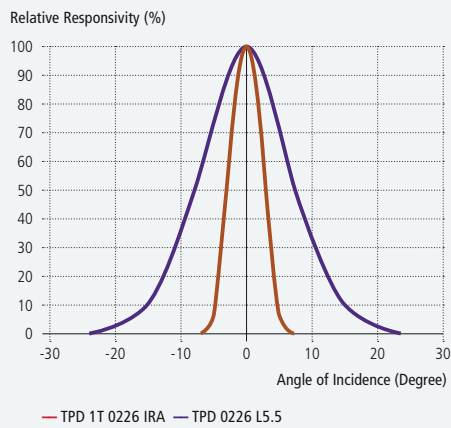
Product Description

The -IRA type thermopile is specially suited with an internal reflector that reduces the field of view and offers a smaller measurement “target” spot than conventional detectors without optics. Due to the reflector, the housing size is taller than other types, although the housing has the same diameter as a standard TO-39 / TO-5 housing.

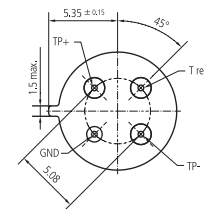
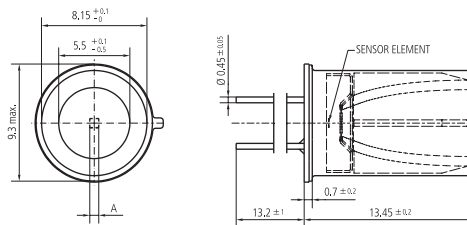
The TPD 1T 0226 L5.5 offers similar benefits as the -IRA type, but has an internal lens to reduce the housing’s height. The field of view of this type is sharper than for the IRA type.

Both series are equipped as standard with an internal thermistor as temperature reference for thermopile temperature compensation.

Field of View



TPD 1T 0226 L5.5



TPD 1T 0226 IRA

TPD 1T 0226 IRA, TPD 1T 0226 L5.5 – Thermopile

Parameter	Symbol	0226 L5.5	0226 IRA	Unit	Remark
Sensitive area	A	0.7 x 0.7	0.7 x 0.7	mm	Absorber area
Sensitive area	A	0.5	0.5	mm ²	Absorber area
Thermopile resistance	R _{TP}	50 ... 100	50 ... 100	kΩ	25° C
Responsivity	R	45	45	V/W	500° / 1Hz / without IR-filter
Sensitivity (T _{det} 25° C / T _{obj} 40° C)	S ₄₀	-	-	μV/K	With standard filter (LWP, cut-on 5.5 μm)
Sensitivity (T _{det} 25° C / T _{obj} 100° C)	S ₁₀₀	-	-	μV/K	With standard filter (LWP, cut-on 5.5 μm)
Time constant	t	22	22	ms	
Noise voltage	V _N	35	35	nV / √Hz	25° C
Specific detectivity	D*	0.9	0.9	10 ⁸ cm ² /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	7	15	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