

Thermopile Detectors With Integral Optics



TPD 1T 0226 IRA, TPiD 1T 0226 L5.5 – High Performance Thermopiles

Target Applications

- Non-contact Temperature measurements
- Thermometry

Features and Benefits

- TO type metal housing
- Optics included
- Thermistor included

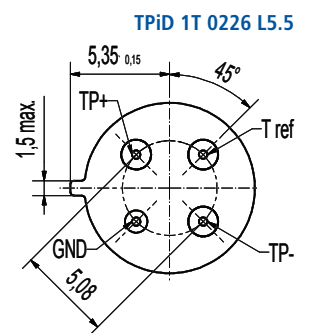
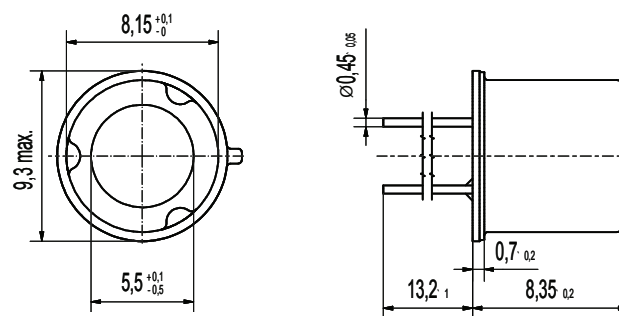
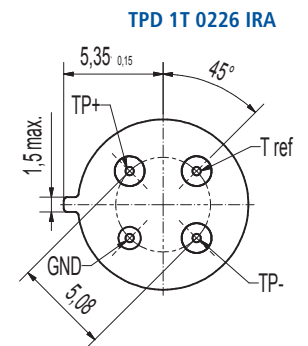
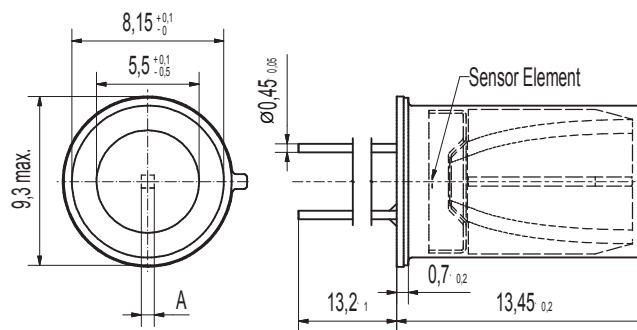
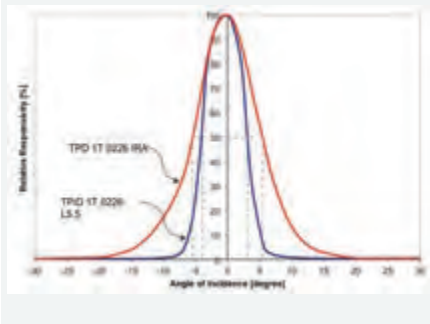
Product Description

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-5 housing.

The TPiD 1T 0226 L5.5 provides the ISOthermal performance feature and integral optics. A built in internal lens provides a field of view slightly sharper than the IRA type.

All versions are equipped as standard with an internal Thermistor as temperature reference for Thermopile temperature compensation.

Field of View



TPD 1T 0226 IRA and TPiD 1T 0226 L5.5

Parameter	Symbol	TPD 1T 0226 IRA	TPiD 1T 0226 L5.5	Unit	Remarks
Sensitive Area	A	0,7 x 0,7	0,7 x 0,7	mm ²	Absorber Area
Thermopile Resistance	R _{TP}	50...100	50...100	kΩ	25°C
Responsivity	R	45	45	V/W	500°K / 1Hz / Without IR-filter
Time Constant	t	22	22	ms	
Noise Voltage	V _n	35	35	nV/√Hz	25°C
Specific Detectivity	D*	0,9	0,9	10 ⁹ 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