

HTS Series

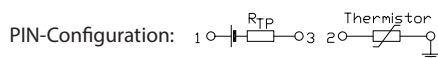
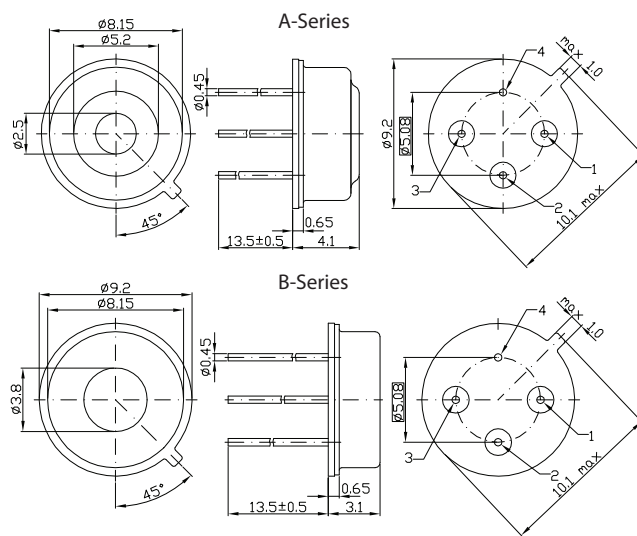
Thermopile Sensors for Remote Temperature Measurement and Gas Analysis

The HTS Series consists of a thermopile sensor chip in a TO-39 transistor housing and features high sensitivity, reproducibility and reliability as well as a small temperature coefficient of sensitivity.

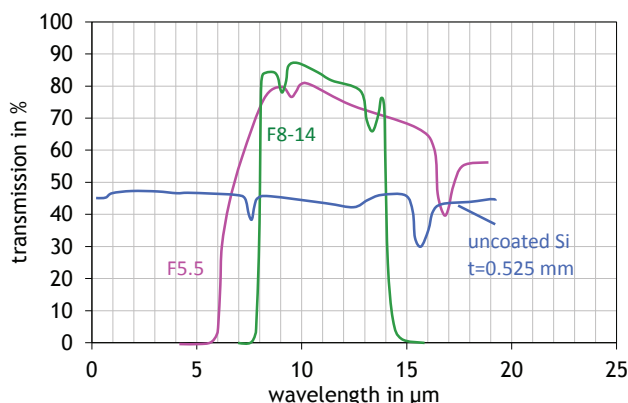
The smallest thermopile chip TP1 is well suited for temperature measurements which require a precise measuring spot whereas the thermopile chip type TP3 is optimized for highest signal outputs.

Additionally, Heimann Sensor can offer integrated thermopile sensors (HIS series) combining a thermopile sensor chip with an ASIC in a TO-39 housing.

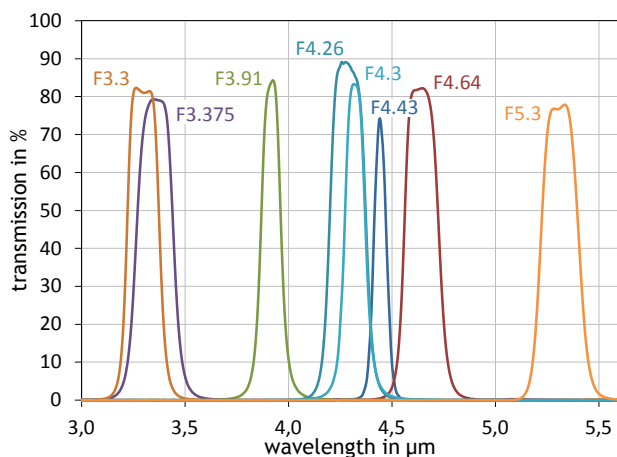
Dimensions and PIN-Configuration



Filter Types for Temperature Measurements



Filter Types for Gas Analysis



Characteristics

	HTS A11	HTS A1c1	HTS A21 B21	HTS A31 B31	Unit
Element size	0.61 ²	0.76 ²	1.2 ²	2.1 ²	mm ²
Voltage response ^{a)}	22	30	63	115	Vmm ² /W
Sensitivity ^{a)}	58	52	44	26	V/W
Resistance R_{Tp} ^{b)}	86	75	84	88	kOhm
TC of resistance R_{Tp} ^{b)}	0.02	0.02	0.02	0.02	%/K
Noise ^{b)}	38	35	37	38	nV/Hz ^{1/2}
Detectivity ^{a),b)}	0.9·10 ⁸	1.1·10 ⁸	1.4·10 ⁸	1.5·10 ⁸	cm Hz ^{2/3} /W
Time constant	< 5	8	10	18	ms
Thermistor reference ^{b)}	100	100	100	100	kOhm
Temp. coeff. of thermistor ^{c)}	3940	3940	3940	3940	K
Field of view (A) ^{d)}	70	70	70	70	°
Field of view (B) ^{d)}			100	100	°
Operating temperature		-20 ... 120			°C
Storage temperature		-40 ... 120			°C

a) Without filter, $T_{obj} = 100^{\circ}\text{C}$, DC
 b) At $T_{amb} = 25^{\circ}\text{C}$
 c) 25°C, 50°C
 d) Degree at 50% signal level

Filter Selection Guide

Gas	- (ref)	CO ₂	HC	CO	NO
Filter (CWL/HPBW in μm/nm)	F3.91/90	F4.26/180	F3.3/160	F4.64/180	F5.3/180
		F4.30/110	F3.375/190		
		F4.43/60			