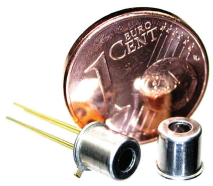
Thermopile Sensors

HEIMANN Sensor
HEIMANN SENSOR GMBH



HMS M-Series

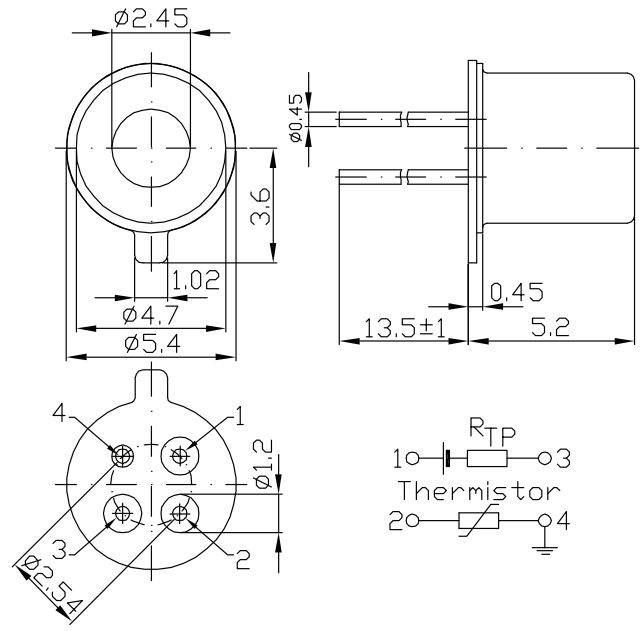
Thermopile Sensors for Remote Temperature Measurements

The HMS M-Series provides an integrated lens in a small TO-46 transistor housing which is ideally suited for narrow fields of view with small measurement spots. This allows accurate temperature measurements at greater distances.

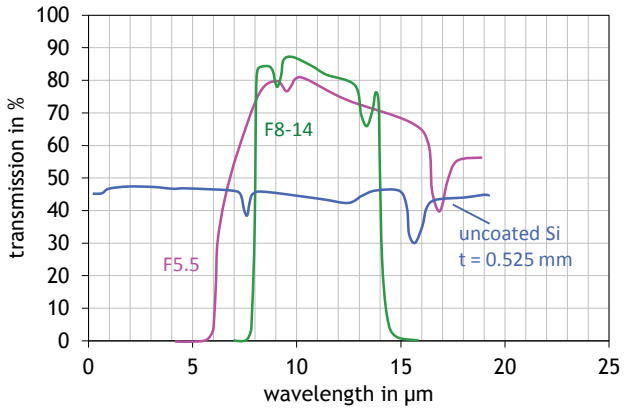
The HMS M-Series thermopile sensors feature high sensitivity, a small temperature coefficient of sensitivity and high reproducibility and reliability.

The smallest thermopile chip TP1 is well suited for temperature measurements which require a precise measuring spot, whereas the thermopile chip type TP2 is optimized for higher voltage signals.

Dimensions and PIN-Configuration



Filter Options



Field-of-View

Sensor	M11 L3.0	M1c1 L3.0	M21 L3.0	M21 L2.1
Field of View	12°	14°	16°	28°

Characteristics

	HTS M11	HTS M1c1	HTS M21	Unit
Element size	0.61²	0.76²	1.2²	mm²
Voltage response[a]	22	30	63	V mm² / W
Sensitivity[a]	58	52	44	V / W
Resistance R_{TP}[b]	86	75	84	kOhm
TC of resistance R_{TP}[b]	0.02	0.02	0.02	% / K
Noise[b]	38	35	37	nV / Hz$^{1/2}$
Detectivity[a),b)]	0.9·10⁸	1.1·10⁸	1.4·10⁸	cm Hz$^{1/2}$ / W
Time constant	<5	8	10	ms
Thermistor reference[b]	100	100	100	kOhm
Temp. coeff. of thermistor[c]	3940	3940	3940	K
Operating temperature		-20 … 120		°C
Storage temperature		-40 … 120		°C

a) Without filter, T_{obj} = 100°C, DC
b) At T_{amb} = 25°C
c) 25°C, 50°C

Ordering Information

HMS	Heimann Miniature Sensor
M	Package type (TO-46 with lens)
1, 1C, 2	Thermopile chip
1, 0	Thermistor 100kΩ, no thermistor
Lx	Lens type (focal length)
Fx	Filter type

E.g.: HMS M21 L3.0 F5.5

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