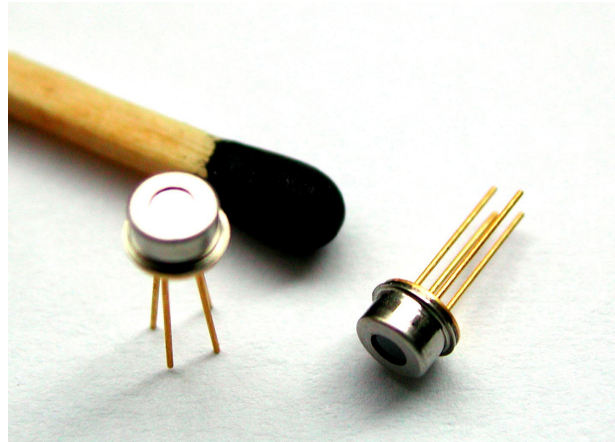


Ultrasmall Thermopile Sensor

FEATURES:

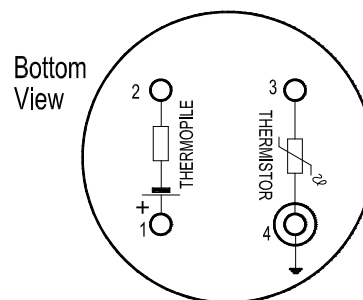
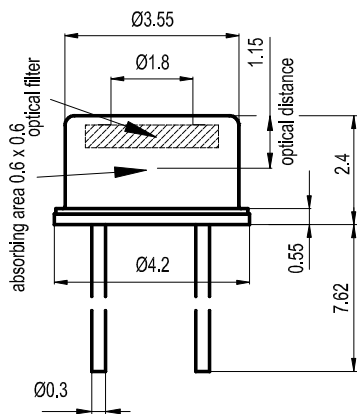
- Ultra Small Housing
- Integrated Ambient Temperature Sensor
- High Sensitivity
- Fast Response
- Perfect Symmetry:
No tap



APPLICATIONS:

- Baby-Ear-Thermometer
- μ -Pyrometer

The smallest Thermopile Mini Sensor from Heimann Sensor GmbH, comprising a new type CMOS compatible sensor chip plus a thermistor reference chip, features good sensitivity, small temperature coefficient of sensitivity as well as high reproducibility and reliability. The sensor will be available in a new transistor outline package smaller than TO18, equipped with an IR transmitting filter window (transmission curve as shown below). The sensor can be equipped with customized filter upon request.

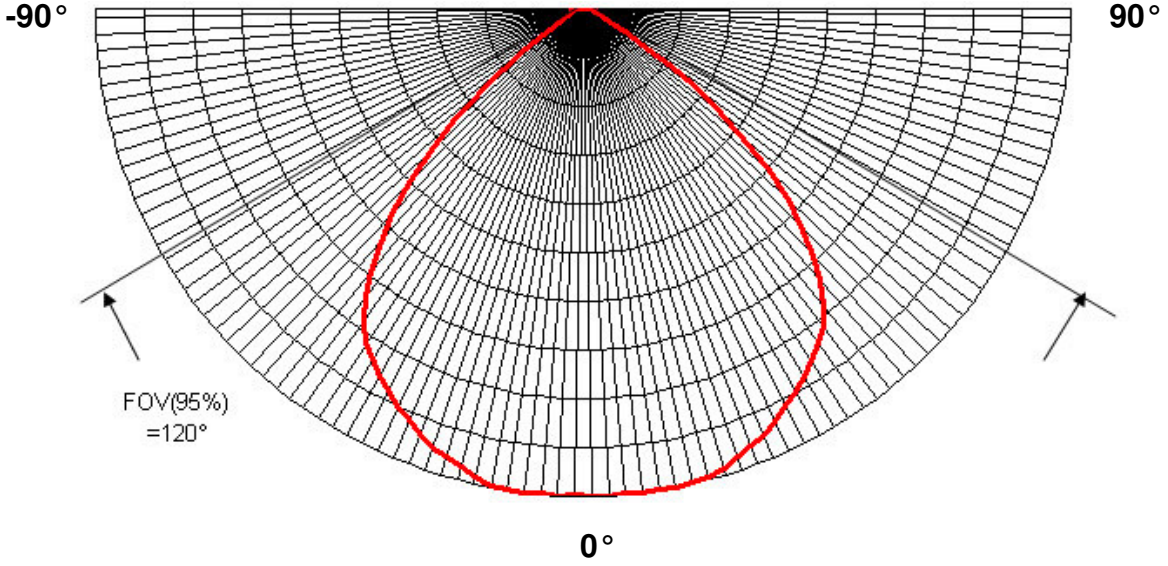


Parameter	Typical Value	Unit	Condition	Remark
SUNSTAR传感与控制 http://www.sensor-ic.com/ TEL:0755-83376549 FAX:0755-83376182E-MAIL: szss20@163.com				
Element Size	0.6 x 0.6	mm ²		Active area
Voltage Response	13	Vmm ² /W		
Sensitivity	36	V/W	Tobj=373K Tamb=298K	
Thermopile Resistance	86	k Ω	25 °C	
TC of Thermopile Resistance	20	ppm	Operating temp. range	
Thermopile Noise	38	nV/ $\sqrt{\text{Hz}}$	25 °C	
Detectivity	$5.6 \cdot 10^7$	cm $\sqrt{\text{Hz/W}}$		
Time Constant	<6	ms	63%	

Thermistor				
Parameter	Nominal Value	Unit	Condition	Remark
Thermistor Ref.	100	k Ω	25 °C	I<10 μ A
TC of Thermistor R	3940	K	R(T)=R ₂₅ *exp(B*(1/T-1/298K))	

Optical				
Parameter	Typical Value	Unit	Condition	Remark
Field of View	120	deg	95% intens. within fov.	See graph below

Temperature				
Parameter	Value	Unit	Condition	Remark
Operating / Storage	-40..100	deg C	Humidity?	



Optical Transmission

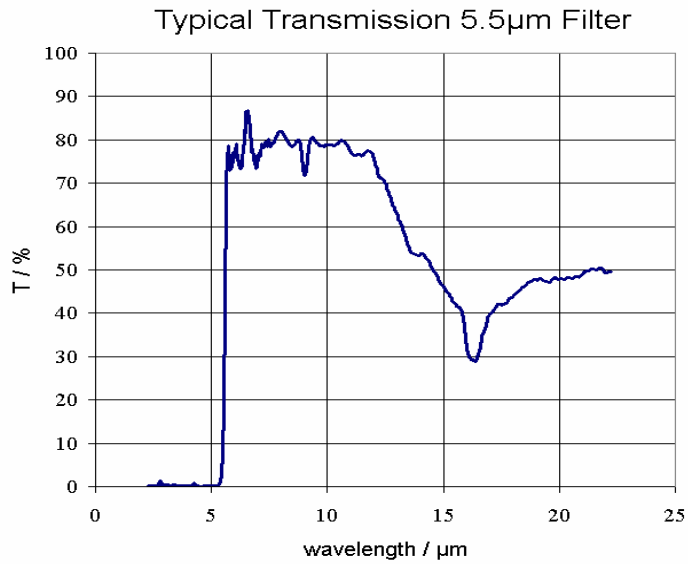


Table of nominal values for Thermopile-Signal and Thermistor-Resistance

Condition for Thermopile-Signal: Fully exposed FOV, $\epsilon=1.00$, $T_{amb}=25^{\circ}C$

SUNSTAR传感与控制 <http://www.sensor-ic.com/> TEL:0755-83376549 FAX:0755-83376182E-MAIL: szss20@163.com

TEMP(°C)	Thermopile(V)	Thermistor (Ω)
0	-9.286E-04	3.217E+05
1	-8.963E-04	3.060E+05
2	-8.623E-04	2.912E+05
3	-8.300E-04	2.772E+05
4	-7.960E-04	2.640E+05
5	-7.620E-04	2.514E+05
6	-7.279E-04	2.395E+05
7	-6.922E-04	2.282E+05
8	-6.582E-04	2.175E+05
9	-6.225E-04	2.074E+05
10	-5.868E-04	1.978E+05
11	-5.494E-04	1.887E+05
12	-5.136E-04	1.800E+05
13	-4.762E-04	1.718E+05
14	-4.388E-04	1.640E+05
15	-4.014E-04	1.566E+05
16	-3.623E-04	1.496E+05
17	-3.232E-04	1.429E+05
18	-2.840E-04	1.365E+05
19	-2.449E-04	1.305E+05
20	-2.058E-04	1.248E+05
21	-1.650E-04	1.193E+05
22	-1.242E-04	1.141E+05
23	-8.334E-05	1.092E+05
24	-4.252E-05	1.045E+05
25	0.000E+00	1.000E+05
26	4.252E-05	9.574E+04
27	8.504E-05	9.168E+04
28	1.276E-04	8.782E+04
29	1.718E-04	8.413E+04
30	2.160E-04	8.063E+04
31	2.602E-04	7.728E+04
32	3.044E-04	7.409E+04
33	3.504E-04	7.105E+04
34	3.963E-04	6.815E+04
35	4.422E-04	6.538E+04
36	4.881E-04	6.274E+04
37	5.358E-04	6.021E+04
38	5.834E-04	5.780E+04
39	6.310E-04	5.550E+04

TEMP(°C)	Thermopile(V)	Thermistor (Ω)
40	6.786E-04	5.331E+04
41	7.279E-04	5.120E+04
42	7.773E-04	4.919E+04
43	8.266E-04	4.727E+04
44	8.759E-04	4.544E+04
45	9.269E-04	4.368E+04
46	9.780E-04	4.200E+04
47	1.029E-03	4.040E+04
48	1.080E-03	3.886E+04
49	1.133E-03	3.738E+04
50	1.185E-03	3.598E+04
51	1.238E-03	3.462E+04
52	1.293E-03	3.333E+04
53	1.345E-03	3.209E+04
54	1.400E-03	3.091E+04
55	1.454E-03	2.977E+04
56	1.510E-03	2.868E+04
57	1.566E-03	2.763E+04
58	1.623E-03	2.663E+04
59	1.679E-03	2.567E+04
60	1.737E-03	2.475E+04
61	1.793E-03	2.386E+04
62	1.852E-03	2.302E+04
63	1.910E-03	2.220E+04
64	1.970E-03	2.142E+04
65	2.029E-03	2.067E+04
66	2.089E-03	1.995E+04
67	2.148E-03	1.926E+04
68	2.209E-03	1.859E+04
69	2.271E-03	1.795E+04
70	2.332E-03	1.734E+04
71	2.395E-03	1.675E+04
72	2.456E-03	1.618E+04
73	2.519E-03	1.563E+04
74	2.584E-03	1.511E+04
75	2.646E-03	1.460E+04
76	2.711E-03	1.412E+04
77	2.777E-03	1.365E+04
78	2.842E-03	1.320E+04
79	2.908E-03	1.277E+04

TEMP(°C)	Thermopile(V)	Thermistor (Ω)
80	2.975E-03	1.235E+04
81	3.041E-03	1.195E+04
82	3.107E-03	1.156E+04
83	3.175E-03	1.119E+04
84	3.243E-03	1.083E+04
85	3.313E-03	1.048E+04
86	3.381E-03	1.015E+04
87	3.451E-03	9.827E+03
88	3.522E-03	9.517E+03
89	3.592E-03	9.218E+03
90	3.664E-03	8.930E+03
91	3.735E-03	8.652E+03
92	3.806E-03	8.384E+03
93	3.880E-03	8.126E+03
94	3.953E-03	7.876E+03
95	4.026E-03	7.635E+03
96	4.099E-03	7.403E+03
97	4.174E-03	7.179E+03
98	4.249E-03	6.962E+03
99	4.323E-03	6.753E+03
100	4.400E-03	6.551E+03