

T H E R M O M E T R I C S
A C O M M I T M E N T T O E X C E L L E N C E

ZTP-135BS

Thermometrics

Thermopile IR Sensor



This thermopile sensor is used for non-contact surface temperature measuring. The ZTP-135BS model consists of thermo-elements, a flat IR filter, and a thermistor for temperature compensation in a hermetically-sealed TO-46 (18) package. There is also a variety of filters available to help maximize performance in specific applications.

Applications

- Industrial IR thermometer
- Ear thermometers
- Non-contact thermometers

Features

- Small-size sensor (TO-46 package)
- Included ambient temperature (thermistor) sensor for compensation
- Fast response time
- Low cost
- High sensitivity

Amphenol

Advanced Sensors

Specifications

Thermopile Chip

Parameter	Limits			Units	Condition
	Min	Typ	Max		
Chip Size		1.8 × 1.8		mm ²	
Diaphragm Size		1.4 × 1.4		mm ²	
Active Area		0.7 × 0.7		mm ²	
Internal Resistance	42	60	78	kΩ	25 °C
Resistance T.C.			0.12	%/ °C	
Responsivity	38	54	70	V/W	500K, 1Hz
Responsivity T.C.		-0.03		%/ °C	
Noise Voltage		32		nV rms	R.M.S., 25 °C
NEP		0.59		nW/Hz ^{1/2}	500K, 1Hz
Detectivity		1.18 E08		cmHz ^{1/2} /W	500K, 1Hz
Time Constant		25		ms	

Thermistor

Parameter	Limits			Units	Condition
	Min	Typ	Max		
Resistance	97	100	103	kΩ	Tol.:3%, @25 °C
Beta - Value	3901	3940	3979	K	Tol.:1%, Defined at @25 °C/50 °C

Absolute Maximum Ratings

Operating Temperature

-20°C ~ 100°C

Storage Temperature

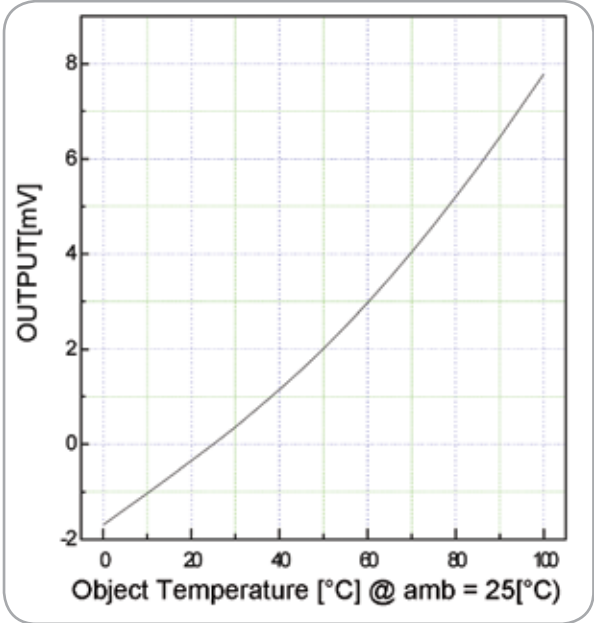
-40°C ~ 120°C

Thermistor Resistance (R-T Table)

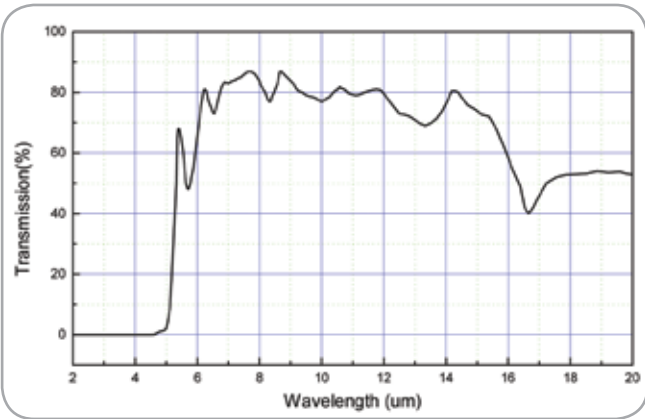
Tamb (°C)	Rmin (kΩ)	Rcent (kΩ)	Rmax (kΩ)
-20	893.6	931.5	970.3
-15	677.5	705.3	733.6
-10	518.0	538.5	559.4
-5	399.2	414.5	430.0
0	310.1	321.5	333.1
5	242.5	251.2	259.9
10	191.0	197.6	204.2
15	151.5	156.5	161.6
20	120.8	124.7	128.6
25	97.00	100.0	103.0
30	78.14	80.65	83.15
35	63.30	65.40	67.50
40	51.56	53.32	55.09
45	42.21	43.69	45.19
50	34.72	35.98	37.25
55	28.70	29.77	30.85
60	23.83	24.74	25.66
65	19.88	20.66	21.44
70	16.65	17.32	17.99
75	14.00	14.58	15.16
80	11.82	12.32	12.82
85	10.022	10.45	10.88
90	8.526	8.896	9.275
95	7.278	7.601	7.930
100	6.235	6.516	6.804

Typical ZTP-135BS Characteristic Data

Sensitivity

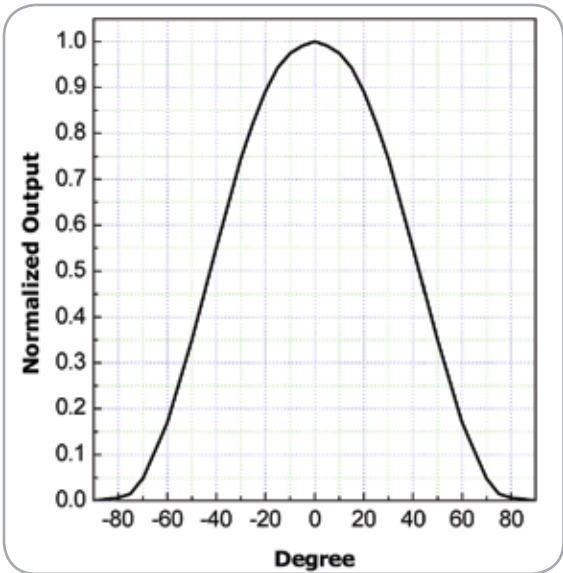


Filter Transmission Data

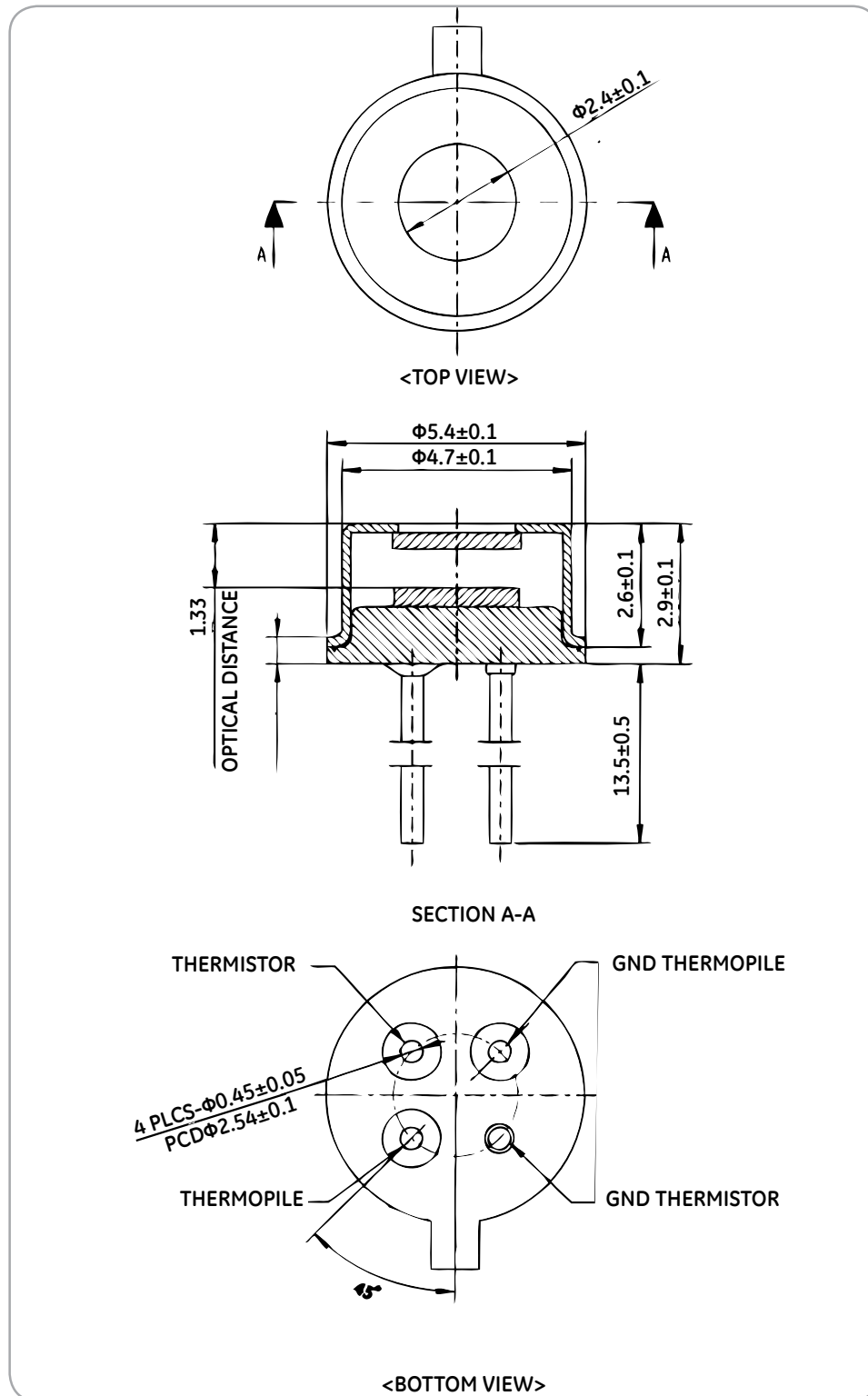


Field of View

Parameter	Limits			Units	Condition
	Min	Typ	Max		
Field of View	80	85	90	Degree	50% of Maximum Output



Outline of Sensor Package and Pin Arrangement (unit: mm)



Amphenol
Advanced Sensors

www.amphenol-sensors.com

© 2014 Amphenol Corporation. All Rights Reserved. Specifications are subject to change without notice. Other company names and product names used in this document are the registered trademarks or trademarks of their respective owners.

AAS-920-593A-03/2014

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Amphenol:](#)

[ZTP-135BS](#)