YPerformance

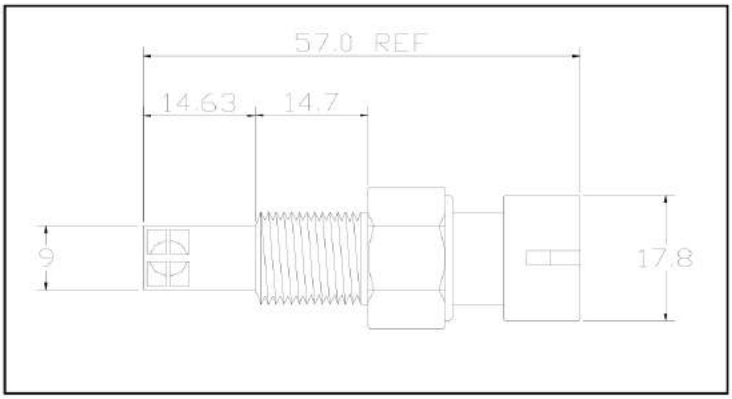
TEMPERATURE SENSOR
PRODUCT DATA

MANIFOLD AIR TEMPERATURE SENSOR

PART NUMBER 25036751

FEATURES

- Design for Manufacturability
- Cost Effective
- Robust Design
- Few Components & Assembly Processes
- Thermistor Technology
- 100% Calibration Certified



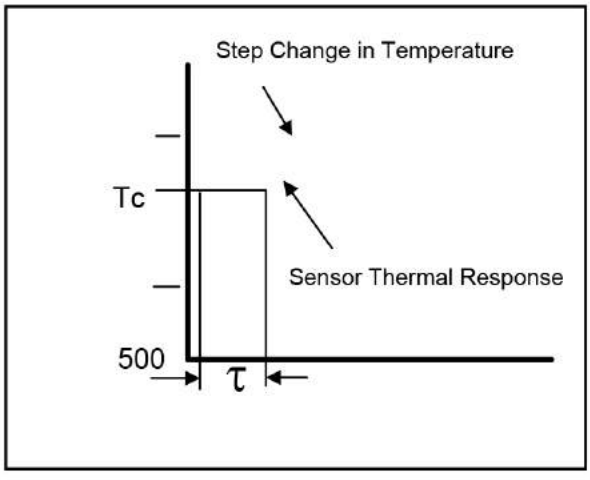
Thermal & Electrical Properties

Typical Voltage Supply		5V dc
Operating Temperature		-40°C to 135°C
Resistive Range(Ω)		See Table
Dissipation Constant	‡	N/A
Thermal Time Constant	‡‡	< 15 sec
Accuracy		See Table

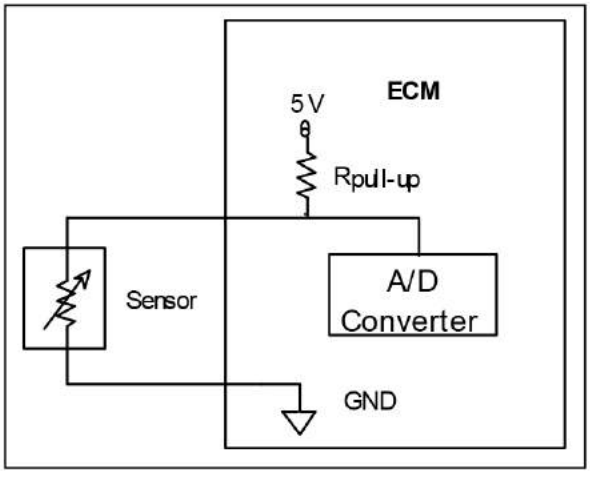
Mechanical Characteristics

Sensor Body Material	Brass Housing
Connector	PBT 30% GF
Basket	PBT 40% GF
Hex Size	18.90mm (3/4")
Thread Size	3/8"-18 NPTF
Sealing Pressure	200 kPa
Mating Connector & Seal	12162197
Installation Torque	20 N-m, dynamic
Overall Weight	33.3 g

Thermal Time Constant ‡‡



Circuit Schematic



‡ The ratio, at a specified ambient temperature, of the change in the power dissipation of the sensor to the resultant temperature change of the thermistor. Test medium: silicone oil.

‡‡ The time required for the sensor to achieve 63.2% of its steady state value when subjected to a step change in ambient temperature [Tc=(Tf-Ti)*63.2%+Ti]. Test medium: silicone oil.

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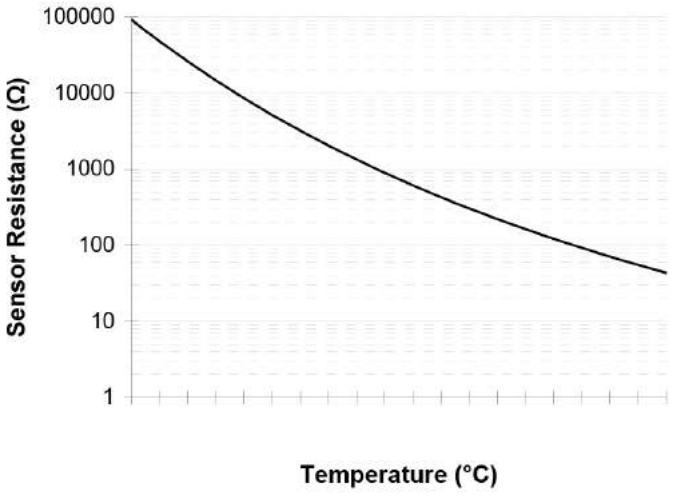
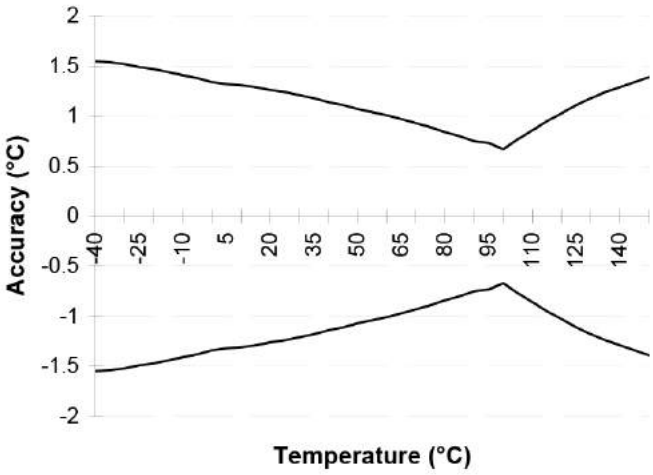
Unload Resistance-Temperature Characteristic Chart



Temperature Accuracy Chart



Note: Temperature Sensor Calibration Resistance Guaranteed by 100 % Automated Calibration Certification.

Unloaded Resistance-Temperature Characteristic Table

Temp (°C)	R(Ω)*	R (±%)	Ref. Acc. (±°C)	Temp (°C)	R(Ω)*	R (±%)	Ref. Acc. (±°C)	Temp (°C)	R(Ω)*	R (±%)	Ref. Acc. (±°C)
-40	99,326	10.46	1.6	25	2,752	5.56	1.2	90	238.1	2.35	0.8
-35	71,332	10.00	1.5	30	2,205	5.28	1.2	95	203.9	2.13	0.7
-30	51,791	9.55	1.5	35	1,778	5.00	1.2	100	175.3	2.00	0.7
-25	37,994	9.11	1.5	40	1,443	4.72	1.1	105	151.3	2.24	0.8
-20	28,146	8.67	1.5	45	1,177	4.45	1.1	110	131.0	2.45	0.9
-15	21,044	8.25	1.4	50	965	4.18	1.1	115	113.9	2.63	1.0
-10	15,873	7.83	1.4	55	796	3.94	1.0	120	99.4	2.79	1.0
-5	12,073	7.42	1.4	60	660	3.71	1.0	125	87.0	2.92	1.1
0	9,256	7.02	1.3	65	551	3.47	1.0	130	76.4	3.03	1.2
5	7,153	6.72	1.3	70	462	3.24	0.9	135	67.3	3.11	1.2
10	5,572	6.43	1.3	75	389	3.01	0.9	140	59.4	3.18	1.3
15	4,373	6.14	1.3	80	329	2.79	0.8	145	52.6	3.22	1.3
20	3,457	5.85	1.3	85	279	2.57	0.8	150	46.7	3.24	1.4

Important: The values above are for the unloaded thermistor, as shipped from Packard Electric, and does not reflect the effects of application system errors and aging.

*Note: Please contact PE Engineering for the resistance vs. temperature curve for your temperature sensor application. Due to self-heating effects of the thermistor, the resistance is dependent on the application.

Since thermistors are "continuous function devices", resistance vs. temperature data is available for numbers beyond those specified above.