TEMPERATURE SENSOR

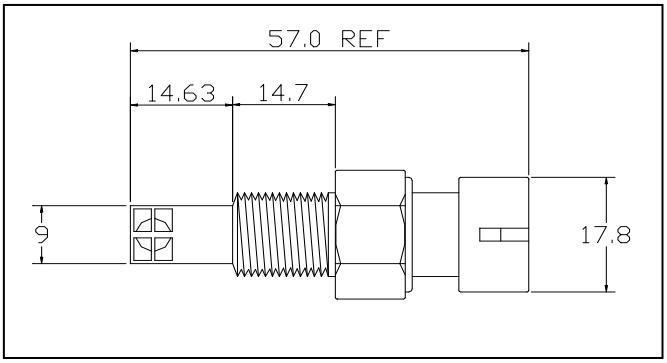
PRODUCT DATA

MANIFOLD AIR TEMPERATURE SENSOR

PART NUMBER 25036751

FEATURES:

- Design for Manufacturability
- Cost Effective
- Robust Design
- Few Components
- Few Assembly Processes
- Thermistor Technology



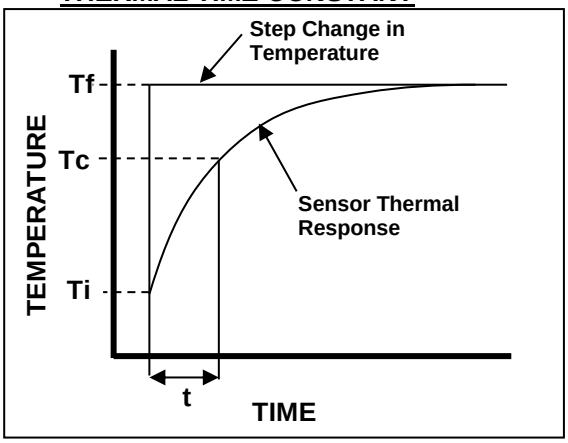
THERMAL & ELECTRICAL PROPERTIES

Typical Voltage Supply:	***5V DC***
Operating Temperature:	***-40 C to 135 C***
Resistive Range (Ohms):	***See Table***
Dissipation Constant: *	***N/A***
Thermal Time Constant: **	***< 15 sec***
Accuracy:	***See Table***

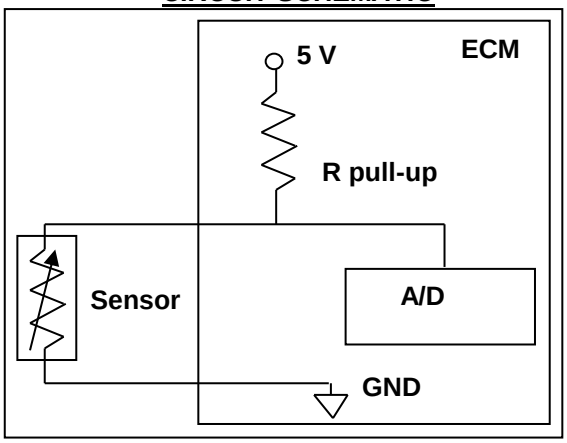
MECHANICAL PROPERTIES

Sensor Body Material:	***Brass***
Connector:	***PBT 30% GF GRA***
Basket:	***PBT 40% GF***
Hex Size:	***18.90 mm (3/4")***
Thread Size:	***3/8" - 18 NPTF***
Sealing Pressure:	***200 kPa***
Mating Connector & Seal:	***12162197 or equiv***
Installation Torque:	***20 Nm***
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: dry air stream flowing at 5000 mm/sec.

** 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: dry air stream flowing at 5000 mm/sec.

Part Revision Level:	**001**
Data Sheet Revision Date:	**8/27/2020**

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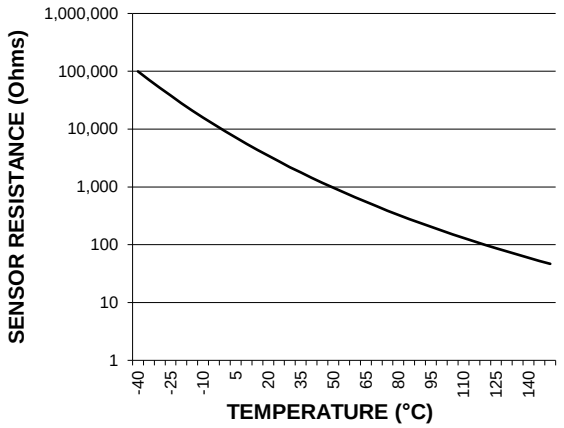
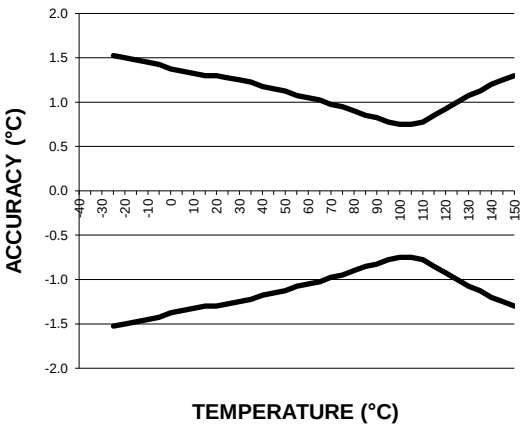
UNLOADED RESISTANCE vs TEMPERATURE CHARACTERISTIC CHART



TEMPERATURE ACCURACY CHART



Temp (°C)	Res (Ohms)	Res (±%)	Ref Acc (±°C)	Temp (°C)	Res (Ohms)	Res (±%)	Ref Acc (±°C)	Temp (°C)	Res (Ohms)	Res (±%)	Ref Acc (±°C)
-40	99326	10.46	1.60	25	2752	5.56	1.20	90	238.1	2.35	0.80
-35	71332	10.00	1.50	30	2205	5.28	1.20	95	203.9	2.13	0.70
-30	51791	9.55	1.50	35	1778	5.00	1.20	100	175.3	2.00	0.70
-25	37994	9.11	1.50	40	1443	4.72	1.10	105	151.3	2.24	0.80
-20	28146	8.67	1.50	45	1177	4.45	1.10	110	131.0	2.45	0.90
-15	21044	8.25	1.40	50	965	4.18	1.10	115	113.9	2.63	1.00
-10	15873	7.83	1.40	55	796	3.94	1.00	120	99.4	2.79	1.00
-5	12073	7.42	1.40	60	660	3.71	1.00	125	87.0	2.92	1.10
0	9256	7.02	1.30	65	551	3.47	1.00	130	76.4	3.03	1.20
5	7153	6.72	1.30	70	462	3.24	0.90	135	67.3	3.11	1.20
10	5572	6.43	1.30	75	389	3.01	0.90	140	59.4	3.18	1.30
15	4373	6.14	1.30	80	329	2.79	0.80	145	52.6	3.22	1.30
20	3457	5.85	1.30	85	279	2.57	0.80	150	46.7	3.24	1.40

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

Notes: Please contact Merit Automotive Engineering for the resistance vs temperature curve for your temperature sensor application. Due to self-heating effects of the thermistor, the resistance is dependent upon the application.

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