



TEMPERATURE SENSOR

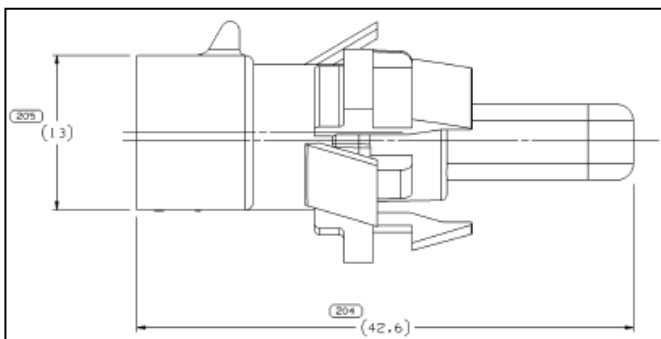
PRODUCT DATA

OUTSIDE AIR TEMPERATURE SENSOR

PART NUMBER 15416387

FEATURES:

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



THERMAL & ELECTRICAL PROPERTIES

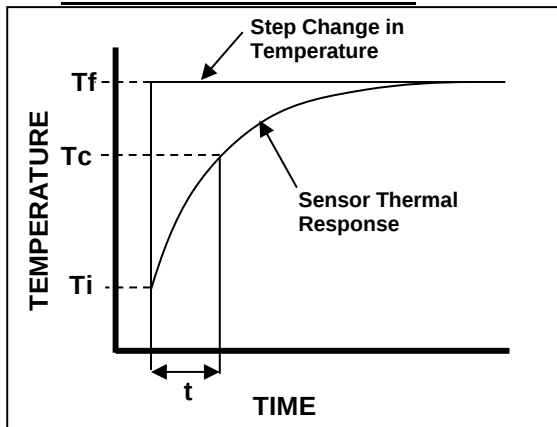
Typical Voltage Supply: **5V DC**
 Operating Temperature: **-40 C to 90 C**
 Resistive Range (Ohms): **See Table**

Dissipation Constant: * **N/A**
 Thermal Time Constant: ** **45 seconds**
 Accuracy: **See Table**

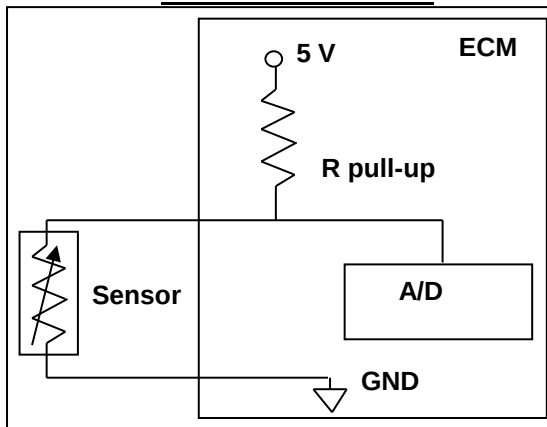
MECHANICAL PROPERTIES

Sensor Body Material: **Nylon 6/12 33% GF**
 Mating Connector TPA: **N/A**
 Mating Connector & Seal: **15449028 or equivalent**
 Overall Weight: **4.99g**
 Color: **Black**

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.

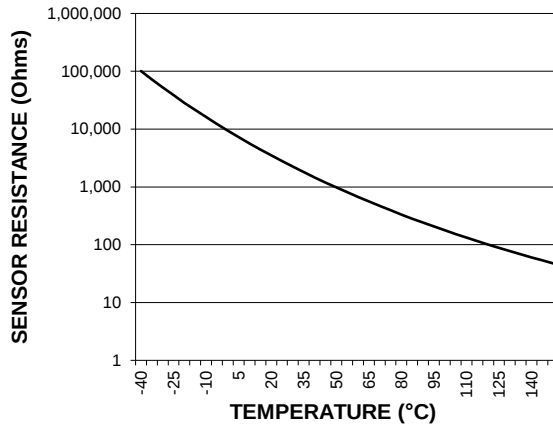
** The time required for the sensor to achieve 63.2% of its steady state value when subjected to a step change in ambient temperature [$T_c = (T_f - T_i) * 63.2\% + T_i$]. Test medium: dry air stream flowing at 5000 mm/sec.

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

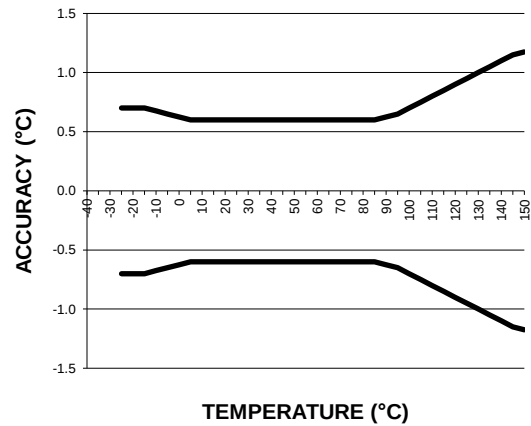


TEMPERATURE SENSOR PRODUCT DATA

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	100865	4.87	0.70	25	2795	2.50	0.60	90	242	2.10	0.70
-35	72437	4.64	0.70	30	2240	2.45	0.60	95	207	2.21	0.70
-30	52594	4.43	0.70	35	1806	2.40	0.60	100	178	2.31	0.80
-25	38583	4.21	0.70	40	1465	2.36	0.60	105	154	2.42	0.80
-20	28582	4.00	0.70	45	1195	2.31	0.60	110	133	2.52	0.90
-15	21371	3.80	0.70	50	980	2.27	0.60	115	116	2.61	0.90
-10	16120	3.60	0.60	55	809	2.23	0.60	120	101	2.68	1.00
-5	12261	3.40	0.60	60	671	2.19	0.60	125	88	2.75	1.00
0	9399	3.21	0.60	65	559	2.15	0.60	130	78	2.80	1.10
5	7263	3.06	0.60	70	469	2.11	0.60	135	68	2.84	1.10
10	5658	2.92	0.60	75	395	2.07	0.60	140	60	2.87	1.20
15	4441	2.78	0.60	80	334	2.04	0.60	145	53	2.89	1.20
20	3511	2.64	0.60	85	283	2.00	0.60	150	48	2.90	1.20

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.