

T H E R M O M E T R I C S
A COMMITMENT TO EXCELLENCE

CTS

Coolant Temperature Sensor



The Coolant Temperature Sensor (CTS) monitors the temperature of the coolant that is being pumped around the battery to cool the battery module of EV/PHEVs. If the battery module starts to overheat, the Coolant Temperature Sensor relays a signal to the Battery Management System (BMS). The BMS uses this information to prevent battery packs from any damage and maximize the performance.

Applications

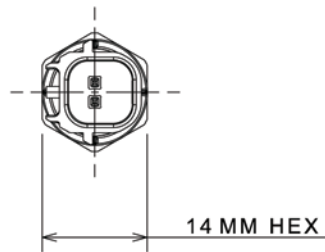
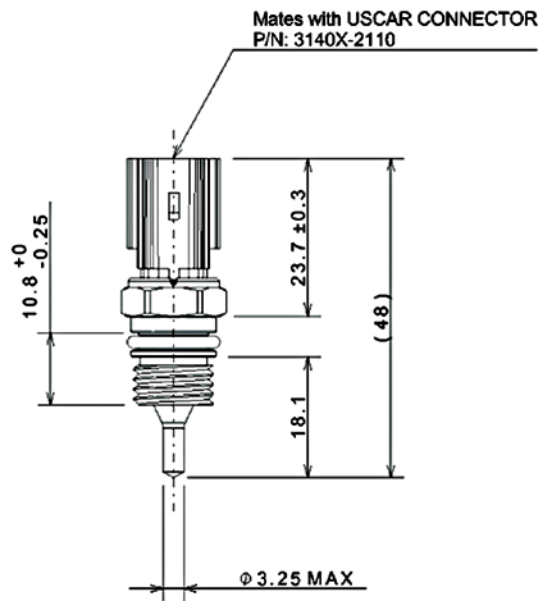
- Battery Coolant Temperature
- HVAC refrigerant lines
- P/No : WTF083B001

Features

- Integral connector with compact size
- Existing field-proven design
- Alternate RvT curves and terminal plating available
- Various dimensions to meet package requirements

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CTS Specifications



Operating Temperature Range

-40°C to 100°C

Storage Temperature Range

-40°C to 125°C

R @ 110°C

2828Ω ± 1.3%

Response Time

5 seconds from 25°C to 85°C in water

Temperature Accuracy

R@25°C ±0.3°C

Housing Material

PBT-GF15 Connector with 14mm Hex
Machined 12L14 Steel, Zinc with trivalent chromium

Beta (25/85)° C

3975K ±0.75%

Connector

USCAR 064 Sealed (IP67)

Mating Connector

USCAR 3140x-2110

R vs. T

Temp. (°C)	Resistance (Ω)	Resistance Accuracy		Temperature Accuracy	
		-%	+	+°C	-°C
-40	94331	-3.9	4.0	0.58	-0.61
-35	68175	-3.6	3.7	0.57	-0.59
-30	49796	-3.4	3.5	0.55	-0.57
-25	36743	-3.2	3.3	0.53	-0.55
-20	27377	-3.0	3.0	0.51	-0.52
-15	20590	-2.8	2.8	0.49	-0.50
-10	15626	-2.6	2.6	0.47	-0.48
-5	11960	-2.4	2.4	0.45	-0.46
0	9231	-2.2	2.2	0.43	-0.43
5	7180	-2.0	2.0	0.40	-0.41
10	5628	-1.8	1.8	0.38	-0.38
15	4444	-1.6	1.6	0.35	-0.35
20	3533	-1.5	1.5	0.32	-0.33
25	2828	-1.3	1.3	0.30	-0.30
30	2278	-1.5	1.5	0.34	-0.34
35	1847	-1.6	1.6	0.39	-0.39
40	1506	-1.8	1.8	0.44	-0.44
15	1235	-1.9	1.9	0.49	-0.49
50	1018	-2.1	2.1	0.54	-0.55
55	844	-2.2	2.2	0.59	-0.60
60	703	-2.3	2.4	0.65	-0.66
65	589	-2.5	2.5	0.70	-0.71
70	495	-2.6	2.6	0.76	-0.77
75	418	-2.7	2.8	0.81	-0.83
80	355	-2.8	2.9	0.87	-0.89
85	303	-2.9	3.0	0.93	-0.95
90	259	-3.1	3.1	0.99	-1.02
95	222	3.2	3.3	1.05	-1.08
100	192	-3.3	3.4	1.12	-1.15

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