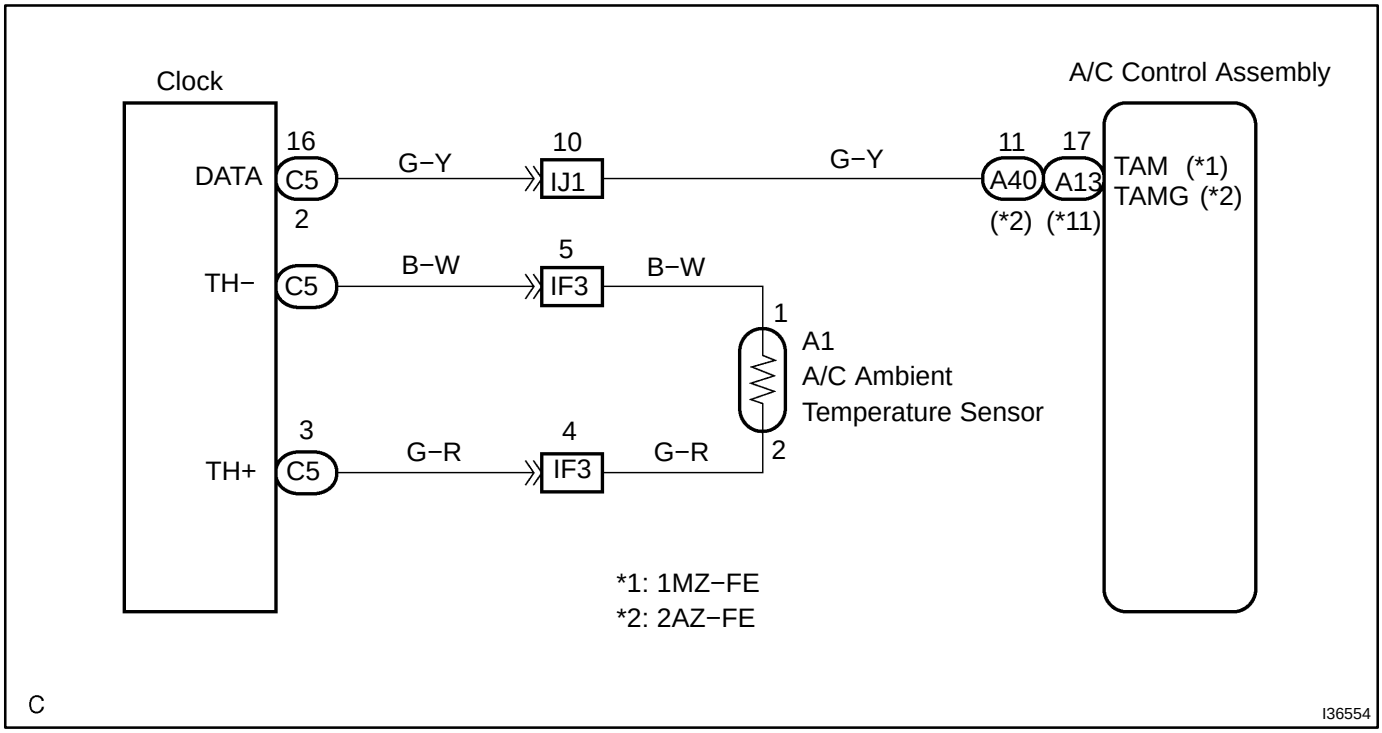
DTC 12 AMBIENT TEMPERATURE SENSOR CIRCUIT

CIRCUIT DESCRIPTION

This sensor detects the temperature outside the cabin and sends the appropriate signals to the A/C amplifier.

DTC No.	Detection item	Trouble Area
12	Open or short in ambient temperature sensor circuit	• Ambient temperature sensor • Harness or connector between ambient temperature sensor and clock, between clock and A/C amplifier • A/C amplifier • Clock

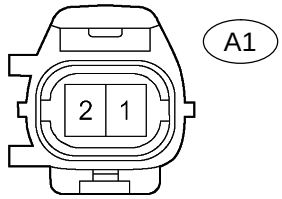
WIRING DIAGRAM



INSPECTION PROCEDURE

1	INSPECT COOLER (AMBIENT TEMP. SENSOR) THERMISTOR

A/C Ambient Temperature Sensor Connector Front View:



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(a) Remove cooler (ambient temp. sensor) thermistor.

(b) Measure the resistance according to the value(s) in the table below.

Standard:

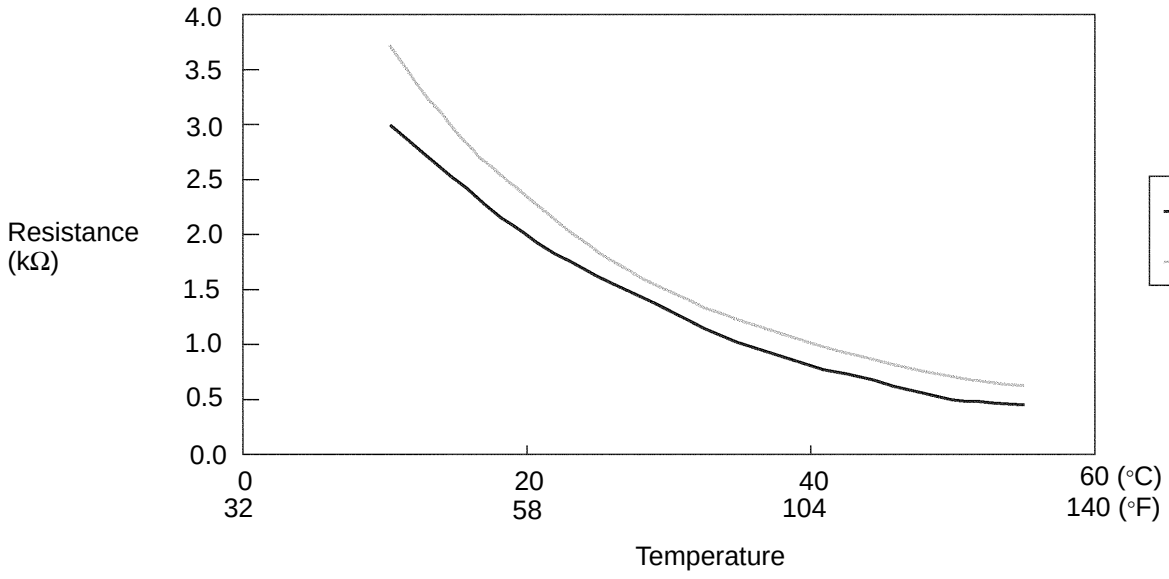
Tester connection	Condition	Specified condition
A1−1 − A1−2	10°C (50°F)	3.00 to 3.73 kΩ
A1−1 − A1−2	15°C (59°F)	2.45 to 2.88 kΩ
A1−1 − A1−2	20°F (68°F)	1.95 to 2.30 kΩ
A1−1 − A1−2	25°C (77°F)	1.60 to 1.80 kΩ
A1−1 − A1−2	30°C (86°F)	1.28 to 1.47 kΩ
A1−1 − A1−2	35°C (95°F)	1.00 to 1.22 kΩ
A1−1 − A1−2	40°C (104°F)	0.80 to 1.00 kΩ
A1−1 − A1−2	45°C (113°F)	0.65 to 0.85 kΩ
A1−1 − A1−2	50°C (122°F)	0.50 to 0.70 kΩ
A1−1 − A1−2	55°C (131°F)	0.44 to 0.60 kΩ
A1−1 − A1−2	60°C (140°F)	0.36 to 0.50 kΩ

NOTICE:

Even slightly touching the sensor may change the resistance value.Be sure to hold the connector of the sensor.

HINT:

As the temperature increases, the resistance decreases (see the chart below).



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NG → **REPLACE COOLER (AMBIENT TEMP. SENSOR) THERMISTOR**

OK

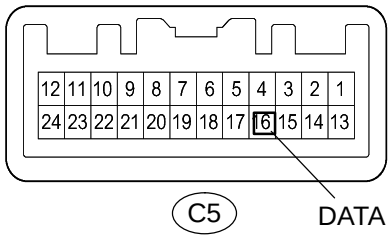
2	CHECK HARNESS AND CONNECTOR(COOLER(AMBIENT TEMPERATURE SENSOR) THERMISTOR − CLOCK ASSY)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

3	INSPECT CLOCK ASSY

Clock Assy Connector
Wire Harness View:



(a) Remove clock assy with connector.
(b) Turn the ignition switch to the ON position.
(c) Measure waveform between terminal DATA and body ground of clock assy connector at each temperature.
Standard: Pulse generation

HINT:
As the temperature increases, the voltage decreases.

NG → CHECK AND REPLACE CLOCK ASSY

OK

4	CHECK HARNESS AND CONNECTOR(CLOCK ASSY − HEATER CONTROL HOUSING SUB−ASSY)

NG → REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

CHECK AND REPLACE HEATER CONTROL HOUSING SUB−ASSY