DI266–05

CIRCUIT INSPECTION

DTC	B1412/12	Ambient Temperature Sensor Circuit

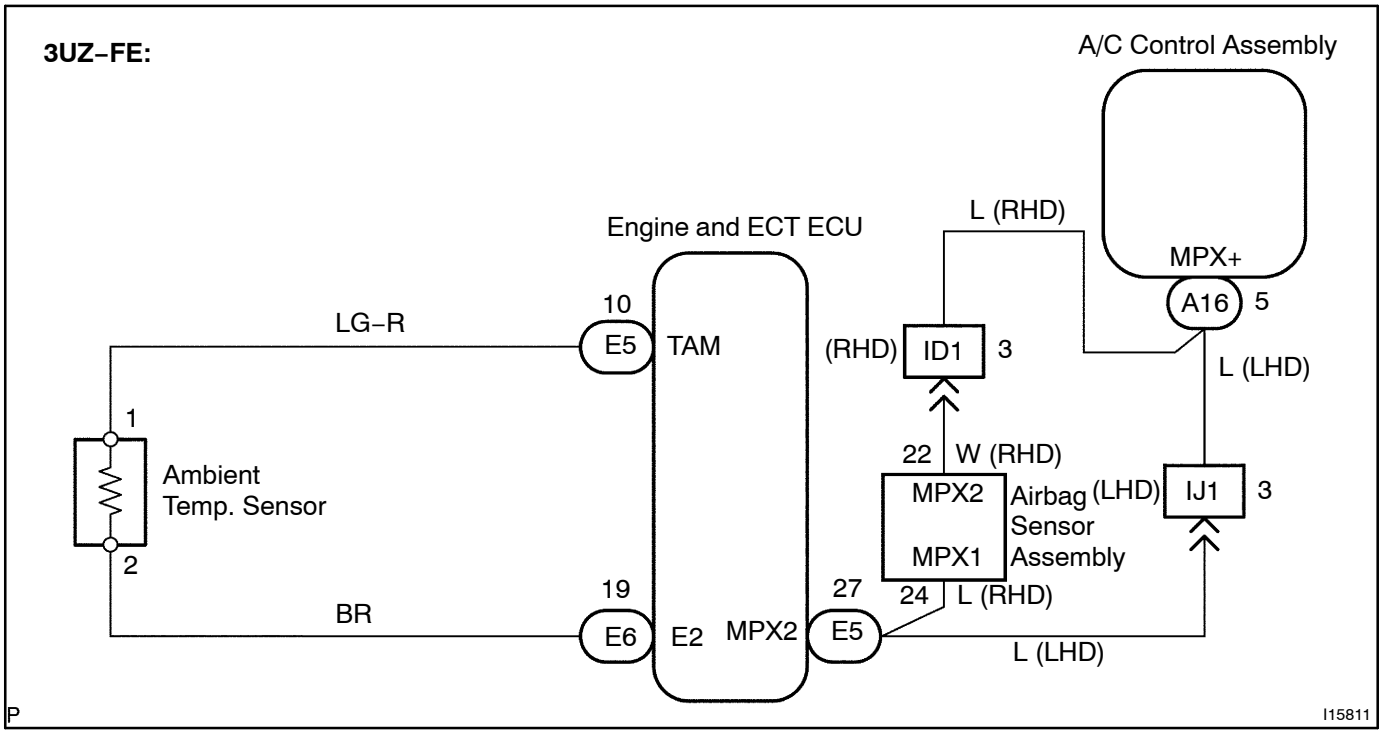
CIRCUIT DESCRIPTION

This sensor detects the ambient temperature and sends the appropriate signals to the A/C control assembly.

DTC No.	Detection Item	Trouble Area
B1412/12	Open or short in ambient temperature sensor circuit.	• Ambient temperature sensor. • Harness or connector between ambient temperature sensor and engine and ECT ECU • Harness or connector between engine and ECT ECU and A/C control assembly • Harness or connector between engine and airbag sensor assembly. • Harness or connector between airbag sensor assembly and A/C control assembly • Engine and ECT ECU • A/C control assembly

WIRING DIAGRAM

3UZ–FE:



INSPECTION PROCEDURE

HINT:
In case of using the hard–held tester, start the inspection step 1 and in case of not using the hard–held tester, start form step 2.

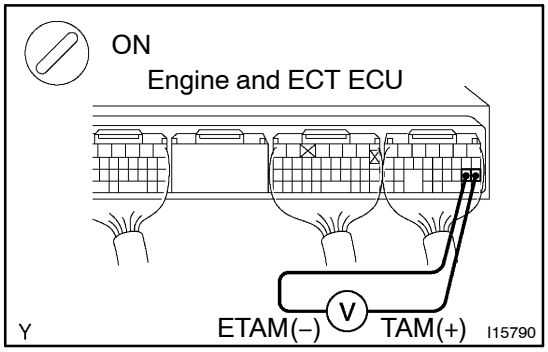
1	**Check ambient temp. sensor using hard–held tester.**

PREPARATION:
Connect the hard–held tester to the DLC3.
CHECK:
Check the ambient temp. sensor using DATA LIST.

OK → **Check and replace A/C control assembly.**

NG

2	**Check voltage between terminals TAM and ETAM of engine and ECT ECU.**



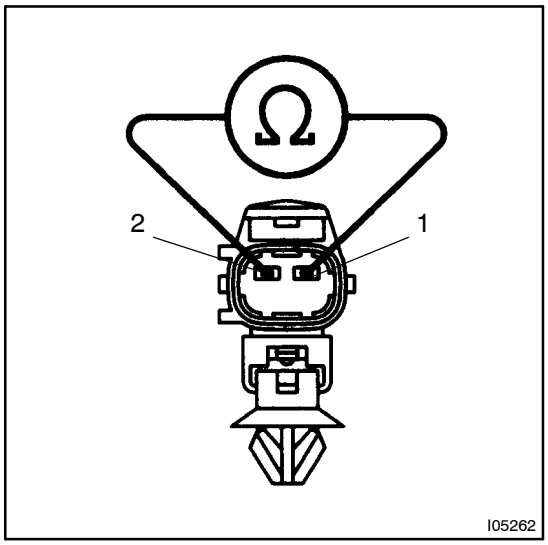
PREPARATION:
Remove engine and ECT ECU with connectors still connected.
CHECK:
(a) Turn ignition switch ON.
(b) Measure voltage between terminals TAM and ETAM of engine and ECU ECU connector at each temperature.
OK:
Voltage :
at 25°C (77°F) : 1.35 – 1.75 V
at 40°C (104°F) : 0.85 – 1.25 V
HINT:
As the temperature increases, the voltage decreases.

NG → **Go to step 3.**

OK

Proceed to next circuit inspection shown on problem symptoms table (See page DI–930). However, if DTC B1412/12 is displayed, check and replace engine and ECT ECU and A/C control assembly.

3	Check ambient temperature sensor.



PREPARATION:
Disconnect ambient temperature sensor connector.
CHECK:
Measure resistance between terminals 1 and 2 of ambient temperature sensor connector at each temperature.
OK:

Resistance :
at 25°C (77°F) : 1.6 – 1.8 kΩ
at 50°C (122°F) : 0.5 – 0.7 kΩ

HINT:
As the temperature increases, the resistance decreases.
NOTICE:
When installing the ambient temperature sensor, be sure to connect the sensor connector before connecting the battery.

NG → **Replace ambient temperature sensor.**

OK

4	Check harness and connector between engine and ECT ECU and ambient temperature sensor (See page IN–30).

NG → **Repair or replace harness or connector.**

OK

5	**Check harness and connector between engine and ECT ECU and A/C control assembly (See page IN–30).**

NG → **Repair or replace harness or connector.**

OK

Check and replace engine and ECT ECU and A/C control assembly.