DTC	P0402	Exhaust Gas Recirculation Flow Excessive Detected (Only for 3RZ–FE)

CIRCUIT DESCRIPTION

Refer to DTC P0401 on page DI–101.

DTC No..	DTC Detection Condition	Trouble Area
P0402	EGR gas temp. sensor value is high during EGR cut–off when engine is cold and vacuum is applied to port E (2 trip detection logic)	• Short in EGR gas temp. sensor circuit • EGR gas temp. sensor • Open in VSV circuit for EGR • VSV for EGR • EGR valve stuck open • ECM
	EGR valve is always open (2 trip detection logic)	

WIRING DIAGRAM

Refer to DTC P0401 on page DI–101.

SYSTEM CHECK DRIVING PATTERN

Refer to DTC P0401 on page DI–101.

INSPECTION PROCEDURE

HINT:

Read freeze frame data using the hand–held tester or the OBD II scan tool, as freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, it is useful for determining whether the vehicle was running or stopped, the engine was warmed up or not, the air–fuel ratio was lean or rich, etc. at the time of the malfunction.

Hand–held tester:

1	**Connect hand–held tester, and read EGR gas temperature value.**

PREPARATION:

(a) Connect the hand–held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester main switch ON.
(c) Select the item ”DIAGNOSIS/ENHANCED OBD II/DATA LIST/ALL DATA/EGR GAS”.

CHECK:

Read the EGR gas temperature on the hand–held tester.

OK:

EGR gas temperature: 150˚C (302˚F) or less (Not immediately after driving)

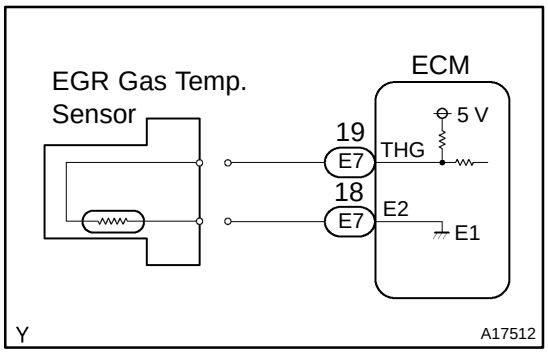
HINT:

If there is a short circuit, the hand–held tester indicates 159.3˚C (318.7˚F).

OK	**Go to step 4.**

NG

2	Check for short in harness and ECM.

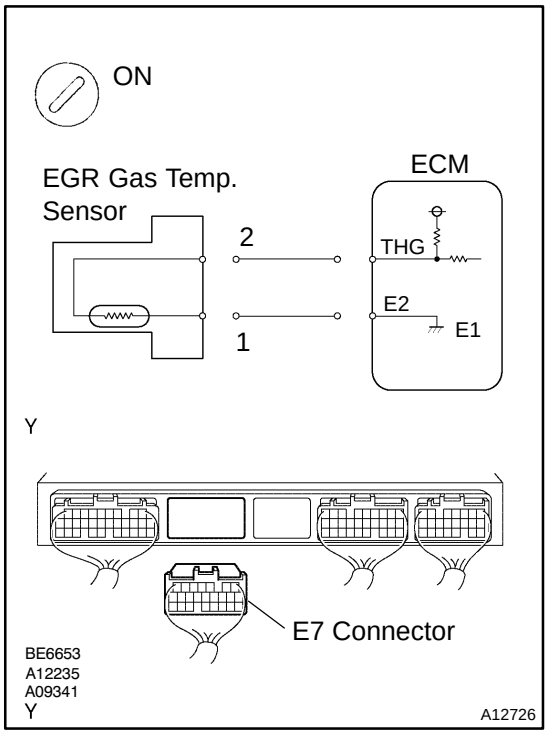


PREPARATION:
Disconnect the EGR gas temperature sensor connector.
CHECK:
Read the EGR gas temperature on the hand–held tester.
OK:
EGR gas temperature: 3.1˚C (37.6˚F)

OK	Replace EGR gas temperature sensor.

NG

3	Check for short in harness or ECM.



PREPARATION:
(a) Remove the glove compartment (See page SF–55).
(b) Disconnect the E7 connector from the ECM.
HINT:
The EGR gas temperature sensor is disconnected.
CHECK:
Read the EGR gas temperature on the hand–held tester.
OK:
EGR gas temperature: 3.1˚C (37.6˚F)

OK	Repair or replace harness or connector.

NG

Check and replace ECM (See page IN–28).

4	Check VSV for EGR (See page DI–101, step 5).

OK → Check EGR valve (See page EC–13).

NG

5	Check operation of VSV for EGR (See page SF–41).

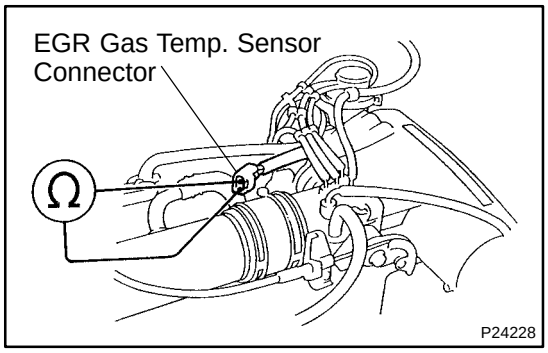
NG → Replace VSV for EGR.

OK

Check for open in harness and connector between VSV for EGR and ECM (See page IN–28).

OBD II scan tool (excluding hand–held tester):

1	Check resistance of EGR gas temperature sensor.



PREPARATION:
Disconnect the EGR gas temperature sensor connector.
CHECK:
Measure the resistance between terminals of the EGR gas temperature sensor connector.
OK:

Resistance:
2.5 kΩ or more (Not immediately after driving)

HINT:
If there is short circuit, ohmmeter indicates 200 Ω or less.

NG → Replace EGR gas temperature sensor.

OK

2	Check for short in harness and connector EGR gas temperature sensor and ECM (See page IN–28).

NG → Repair or replace harness or connector.

OK ↓

3	Check VSV for EGR (See page DI–101 step 5).

OK → Check EGR valve (See page EC–13).

NG ↓

4	Check operation of VSV for EGR (See page EC–13).

NG → Replace VSV for EGR.

OK ↓

5	Check for open in harness and connector between VSV for EGR and ECM (See page IN–28).

NG → Repair or replace harness or connector.

OK ↓

Check and replace ECM (See page IN–28).