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

CIRCUIT DESCRIPTION

Refer to DTC P0401 on page DI-68 .

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-68 .

SYSTEM CHECK DRIVING PATTERN

Refer to DTC P0401 on page DI-68 .

INSPECTION PROCEDURE

HINT:

Read freeze frame data using TOYOTA hand-held tester or 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.

TOYOTA hand-held tester:

1	**Connect TOYOTA hand-held tester and read EGR gas temperature value.**

PREPARATION:

(a) Connect the TOYOTA hand-held tester to the DLC3.

(b) Turn the ignition switch ON and push the TOYOTA hand-held tester main switch ON.

CHECK:

Read the EGR gas temperature on the TOYOTA hand-held tester.

OK:

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

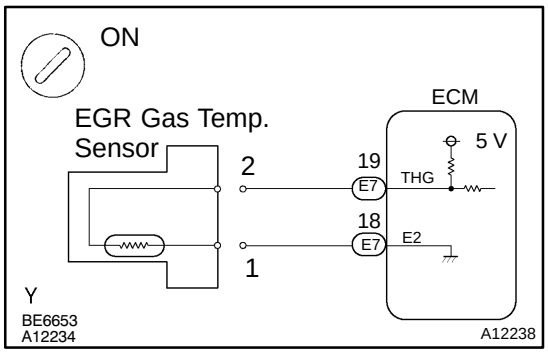
HINT:

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

OK	Go to step 4.

NG

2	Check for short in harness and ECM.

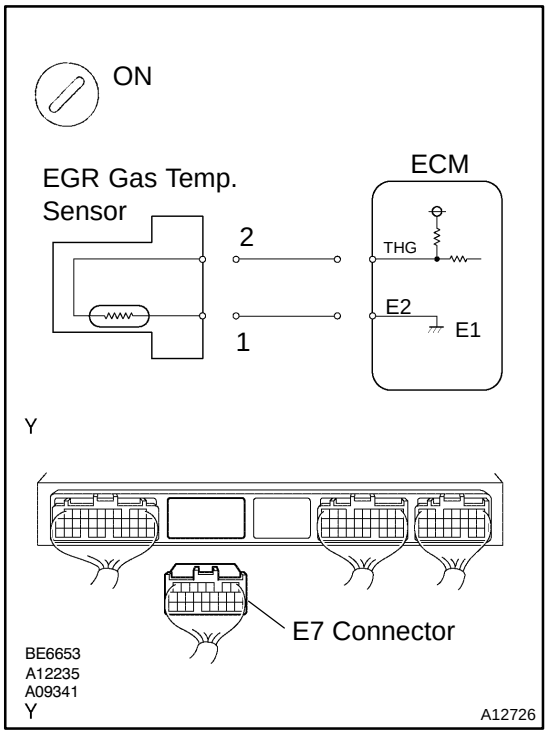


PREPARATION:
Disconnect the EGR gas temperature sensor connector.
CHECK:
Read the EGR gas temperature on the TOYOTA hand-held tester.
OK:
EGR gas temperature: 3.1˚C (37.6˚F)

OK	Replace EGR gas temperature sensor.

NG

3	Check for short in harness or ECM.



PREPARATION:
(a) Remove the glove compartment (See page SF-49).
(b) Disconnect the E7 connector from the ECM.
HINT:
The EGR gas temperature sensor is disconnected.
CHECK:
Read the EGR gas temperature on the TOYOTA 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-68 , step 5).

OK	Check EGR valve (See page EC-9).

NG

5	Check operation of VSV for EGR (See page EC-9).

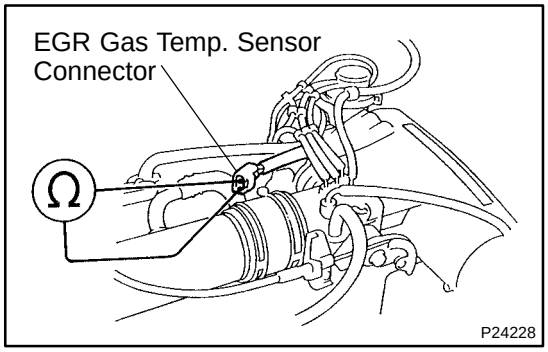
NG	Replace VSV for EGR.

OK

Check for open in harness and connector between R/B No.2 and ECM (See page IN-28).

OBD II scan tool (excluding TOYOTA 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-68 step 5).

OK → Check EGR valve (See page EC-9).

NG

4	Check operation of VSV for EGR (See page EC-9).

NG → Replace VSV for EGR.

OK

5	Check for open in harness and connector between R/B No.2 and ECM (See page IN-28).

NG → Repair or replace harness or connector.

OK

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