

<b>DTC</b>	<b>C0278 / 11, C0279 / 12</b>	<b>ABS Solenoid Relay Circuit</b>
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**CIRCUIT DESCRIPTION**

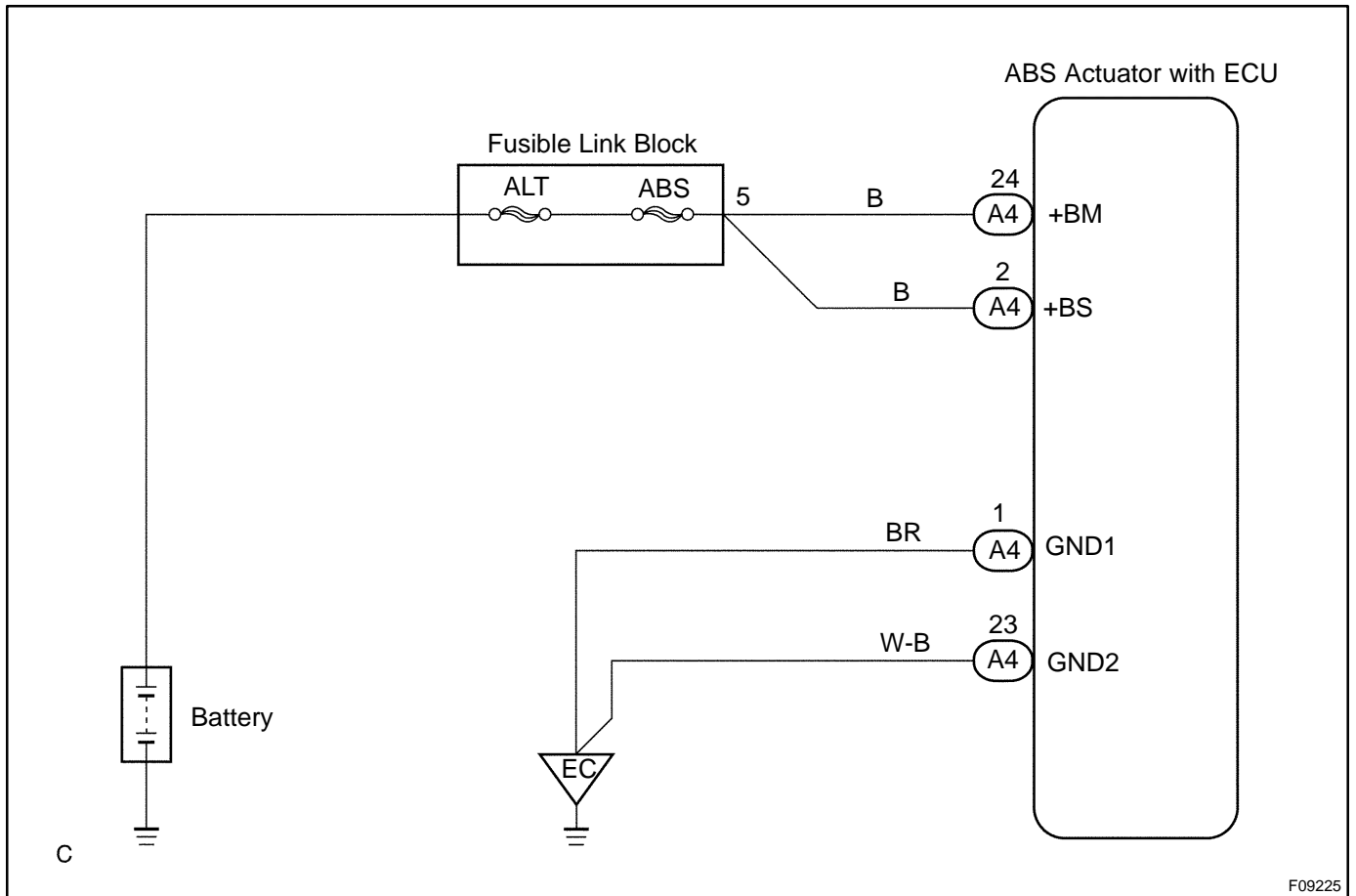
This relay supplies power to each ABS solenoid. After the ignition switch is turned ON, if the initial check is OK, the relay goes on.

DTC No.	DTC Detecting Condition	Trouble Area
C0278 / 11	With IG1 terminal voltage at 8.5 V -19 V, when solenoid relay is turned ON, relay contact is OFF*1 for 0.2 sec. or longer.	<ul style="list-style-type: none"> <li>• ABS solenoid valve relay</li> <li>• ABS solenoid valve relay circuit</li> </ul>
C0279 / 12	Immediately after IG1 is turned ON, when solenoid relay is turned OFF, relay contact is ON*2 for 0.2 sec. or longer.	<ul style="list-style-type: none"> <li>• Valve supply voltage</li> </ul>

\*1 Relay contact OFF condition: When all solenoid supplied voltage are below 2.5 V.

\*2 Relay contact ON condition: Any of voltage supplied by solenoid is 6 V or more.

**WIRING DIAGRAM**



## INSPECTION PROCEDURE

### HINT:

Start the inspection from step 1 in case of using the TOYOTA hand-held tester and start from step 2 in case of not using the TOYOTA hand-held tester.

<b>1</b>	<b>Check ABS solenoid relay operation.</b>
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### 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.
- (c) Select the ACTIVE TEST mode on the TOYOTA hand-held tester.

### CHECK:

Check the operation sound of the ABS solenoid relay when operating it with the TOYOTA hand-held tester.

### OK:

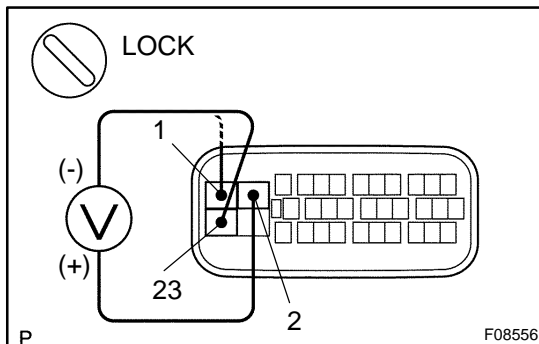
The operation sound of the ABS solenoid relay should be heard.

**NG**

Check and replace ABS actuator assembly.

**OK**

<b>2</b>	<b>Check voltage between terminals +BS (2) and GND (1, 23) of ABS ECU.</b>
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### PREPARATION:

Disconnect the ABS ECU connector.

### CHECK:

Measure the voltage between terminals 2 and 1, 23 of ABS ECU harness side connector.

### OK:

**Voltage: 10 - 14 V**

**NG**

Check and replace ECU-IG fuse.  
Check and repair harness or connector.

**OK**

If the same code is still output after the DTC is deleted, check the contact condition of each connection. If the connection is normal, the ECU may be defective.