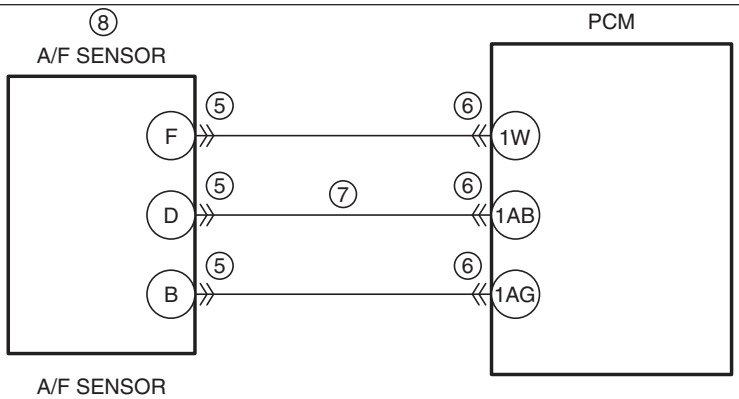
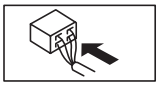
DTC P2251:00 [SKYACTIV-G 2.0]

id0102h1851300

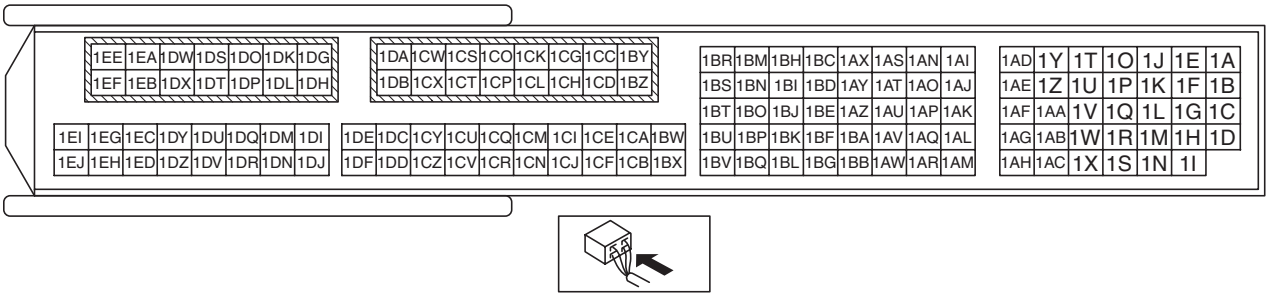
DTC P2251:00	A/F sensor negative current control circuit open
DETECTION CONDITION	• The PCM monitors the A/F sensor signal voltage at the PCM terminal 1W. If either of the following conditions is met, the PCM determines that the A/F sensor negative current control circuit is open. **MONITORING CONDITIONS** — Circuit voltage oscillation or the PCM terminal 1W voltage is **below 5.3 V**. — The PCM detects the DTC P0134:00 while the pending code P2251:00 is stored. — A/F sensor element impedance: specified or more — Battery voltage: **11—18 V** **Diagnostic support note** • This is a continuous monitor (A/F sensor, HO2S). • The check engine light illuminates if the PCM detects the above malfunction condition in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the PCM. • PENDING CODE is available if the PCM detects the above malfunction condition during first drive cycle. • FREEZE FRAME DATA (Mode 2)/Snapshot data is available. • The DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	• Fixes the duty value of the A/F sensor heater. • Stops the fuel feedback control.
POSSIBLE CAUSE	• A/F sensor connector or terminals malfunction • PCM connector or terminals malfunction • Open circuit in wiring harness between A/F sensor terminal D and PCM terminal 1AB • A/F sensor malfunction • PCM malfunction



A/F SENSOR WIRING HARNESS-SIDE CONNECTOR



PCM WIRING HARNESS-SIDE CONNECTOR



Diagnostic Procedure

STEP	INSPECTION		ACTION
1	**IDENTIFY TRIGGER DTC FOR FREEZE FRAME DATA (MODE 2)** • Perform the Freeze Frame PID Data Access Procedure. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-G 2.0].) • Is the DTC P2251:00 on FREEZE FRAME DATA (Mode 2)?	Yes	Go to the next step.
		No	Go to the troubleshooting procedure for DTC on FREEZE FRAME DATA (Mode 2). (See DTC TABLE [SKYACTIV-G 2.0].)
2	**VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA AND DIAGNOSTIC MONITORING TEST RESULTS HAVE BEEN RECORDED** • Have the FREEZE FRAME DATA (Mode 2)/ snapshot data and DIAGNOSTIC MONITORING TEST RESULTS (A/F sensor, HO2S related) been recorded?	Yes	Go to the next step.
		No	Record the FREEZE FRAME DATA (Mode 2)/snapshot data and DIAGNOSTIC MONITORING TEST RESULTS on the repair order, then go to the next step.
3	**VERIFY RELATED SERVICE INFORMATION AVAILABILITY** • Verify related Service Information availability. • Is any related Service Information available?	Yes	Perform repair or diagnosis according to the available Service Information. • If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
4	**VERIFY RELATED PENDING CODE AND/OR DTC** • Switch the ignition to off, then to ON (engine off). • Perform the Pending Trouble Code Access Procedure and DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-G 2.0].) • Is the PENDING CODE/DTC P0031:00 or P0032:00 also present?	Yes	Go to the applicable PENDING CODE or DTC inspection. (See DTC P0031:00 [SKYACTIV-G 2.0].) (See DTC P0032:00 [SKYACTIV-G 2.0].)
		No	Go to the next step.
5	**INSPECT A/F SENSOR CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the A/F sensor connector. • Inspect for poor connection (such as damaged/ pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the connector and/or terminals, then go to Step 9.
		No	Go to the next step.
6	**INSPECT PCM CONNECTOR CONDITION** • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/ pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the connector and/or terminals, then go to Step 9.
		No	Go to the next step.
7	**INSPECT A/F SENSOR NEGATIVE CURRENT CONTROL CIRCUIT FOR OPEN CIRCUIT** • Verify that the A/F sensor and PCM connectors are disconnected. • Inspect for continuity between A/F sensor terminal D (wiring harness-side) and PCM terminal 1AB (wiring harness-side). • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to Step 9.
8	**INSPECT A/F SENSOR** • Reconnect all disconnected connectors. • Inspect the A/F sensor. (See AIR FUEL RATIO (A/F) SENSOR INSPECTION [SKYACTIV-G 2.0].) • Is there any malfunction?	Yes	Replace the A/F sensor, then go to the next step. (See AIR FUEL RATIO (A/F) SENSOR REMOVAL/ INSTALLATION [SKYACTIV-G 2.0].)
		No	Go to the next step.

STEP	INSPECTION		ACTION
9	**VERIFY DTC TROUBLESHOOTING COMPLETED** • Make sure to reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [SKYACTIV-G 2.0].) • Perform the KOER self test or Drive Mode 03 (Variable Valve Timing, A/F Sensor Heater, HO2S Heater, A/F Sensor, HO2S and TWC Repair Verification Drive Mode). (See KOEO/KOER SELF TEST [SKYACTIV-G 2.0].) (See OBD DRIVE MODE [SKYACTIV-G 2.0].) • Is the PENDING CODE for this DTC present?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.0].) Go to the next step.
		No	Go to the next step.
10	**VERIFY AFTER REPAIR PROCEDURE** • Perform the “AFTER REPAIR PROCEDURE”. (See AFTER REPAIR PROCEDURE [SKYACTIV-G 2.0].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-G 2.0].)
		No	DTC troubleshooting completed.