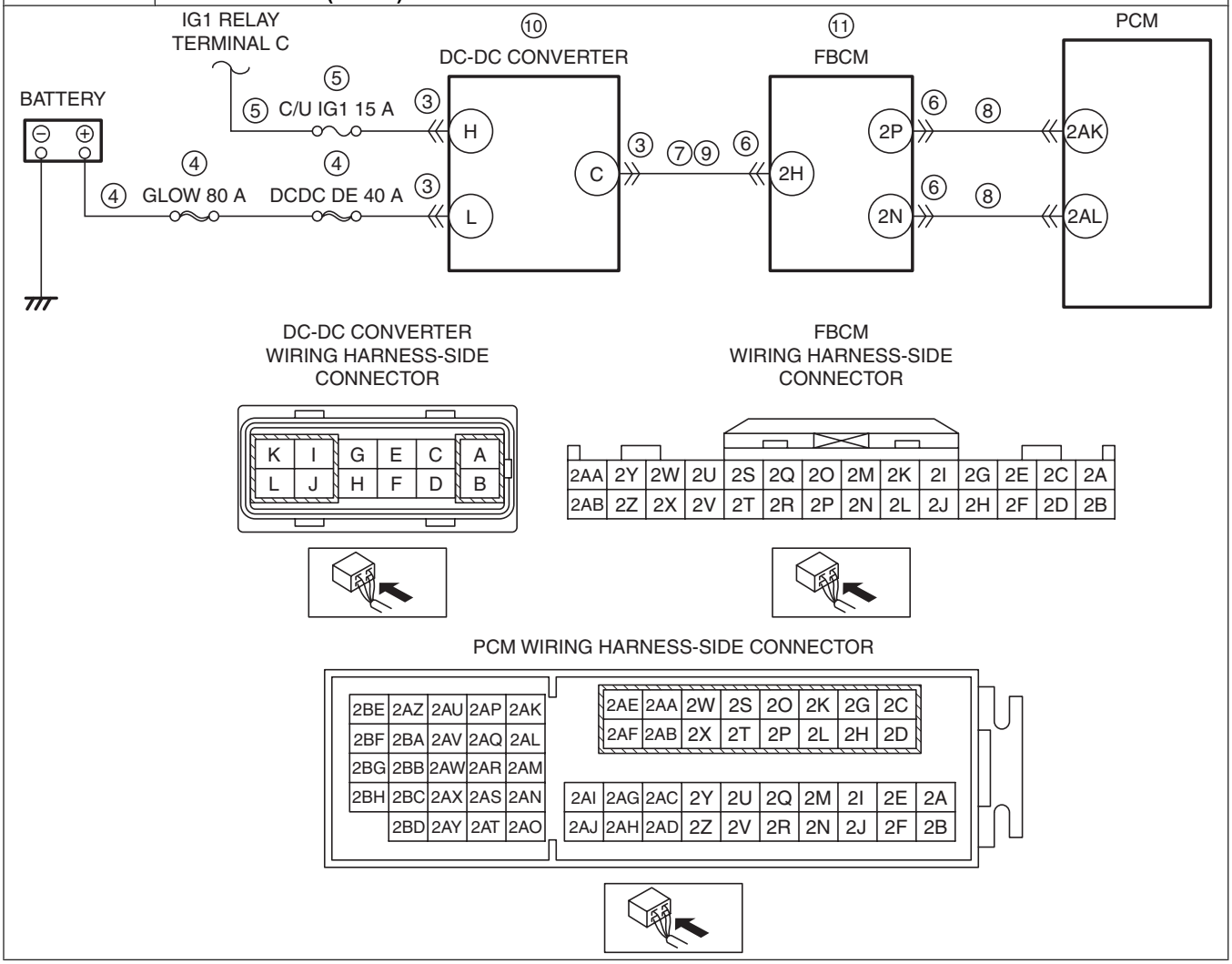
DTC U0298:00 [SKYACTIV-D 2.2]

id0102s4910500

Details On DTCs

DTC U0298:00	CAN/LIN communication system: DC-DC converter information communication error with front body control module (FBCM)
DETECTION CONDITION	• PCM detects a DC-DC converter information communication error from front body control module (FBCM). **Diagnostic support note** • This is a continuous monitor (other). • The check engine light does not illuminate. • FREEZE FRAME DATA (Mode 2)/Snapshot data is not available. • DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	• Inhibits engine-stop by operating the i-stop function.
VEHICLE STATUS WHEN DTCs ARE OUTPUT	• Flashes i-stop warning light (amber).
POSSIBLE CAUSE	• Communication line between DC-DC converter and front body control module (FBCM) malfunction • DC-DC converter connector or terminals malfunction • Short to ground or open circuit in DC-DC converter power supply circuit — Short to ground in wiring harness between GLOW 80 A fuse and DC-DC converter terminal L — GLOW 80 A fuse malfunction — DCDC DE 40 A fuse malfunction — Open circuit in wiring harness between battery positive terminal and DC-DC converter terminal L • Short to ground or open circuit in DC-DC converter power supply circuit — Short to ground in wiring harness between C/U IG1 15 A fuse and DC-DC converter terminal H — C/U IG1 15 A fuse malfunction — Open circuit in wiring harness between IG1 relay terminal C and DC-DC converter terminal H • Front body control module (FBCM) connector or terminals malfunction • Short to ground in wiring harness between the following terminals: — DC-DC converter terminal C—Front body control module (FBCM) terminal 2H — Front body control module (FBCM) terminal 2P—PCM terminal 2AK — Front body control module (FBCM) terminal 2N—PCM terminal 2AL • Open circuit in wiring harness between DC-DC converter terminal C and front body control module (FBCM) terminal 2H • DC-DC converter malfunction • Front body control module (FBCM) malfunction

DTC U0298:00	CAN/LIN communication system: DC-DC converter information communication error with front body control module (FBCM)



Repeatability Verification Procedure

1. Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [SKYACTIV-D 2.2].)
2. Start the engine.

Diagnostic Procedure

STEP	INSPECTION		ACTION
1	**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.
2	**VERIFY RELATED PENDING CODE AND/OR DTC** • Switch the ignition off, then ON (engine off). • Perform the Pending Trouble Code Access Procedure and DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].) • Are any other PENDING CODEs and/or DTCs present?	Yes	Go to the applicable PENDING CODE or DTC inspection. (See DTC TABLE [SKYACTIV-D 2.2].)
		No	Go to the next step.

STEP	INSPECTION		ACTION
3	**INSPECT DC-DC CONVERTER CONNECTOR CONDITION** • Switch the ignition off. • Disconnect the DC-DC converter 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 12.
		No	Go to the next step.
4	**INSPECT DC-DC CONVERTER POWER SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT** • Verify that the DC-DC converter connector is disconnected. • Measure the voltage at the DC-DC converter terminal L (wiring harness-side). • Is the voltage **B+**?	Yes	Go to the next step.
		No	Inspect the GLOW 80 A fuse and DCDC DE 40 A fuse. • If the fuse is burnt out: — Refer to the wiring diagram and verify whether or not there is a common connector between GLOW 80 A fuse and DC-DC converter terminal L. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to ground. • Replace the fuse. • If the fuse is damaged: — Replace the fuse. • If all fuses are normal: — Refer to the wiring diagram and verify whether or not there is a common connector between battery positive terminal and DC-DC converter terminal L. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has an open circuit. Go to Step 12.

STEP	INSPECTION		ACTION
5	**INSPECT DC-DC CONVERTER POWER SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT** • Verify that the DC-DC converter connector is disconnected. • Switch the ignition ON (engine off). • Measure the voltage at the DC-DC converter terminal H (wiring harness-side). • Is the voltage **B+**?	Yes	Go to the next step.
		No	Inspect the C/U IG1 15 A fuse. • If the fuse is burnt out: — Refer to the wiring diagram and verify whether or not there is a common connector between C/U IG1 15 A fuse and DC-DC converter terminal H. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to ground. • Replace the fuse. • If the fuse is damaged: — Replace the fuse. • If the fuse is normal: — Refer to the wiring diagram and verify whether or not there is a common connector between IG1 relay terminal C and DC-DC converter terminal H. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has an open circuit. Go to Step 12.
6	**INSPECT FRONT BODY CONTROL MODULE (FBCM) CONNECTOR CONDITION** • Switch the ignition off. • Disconnect the front body control module (FBCM) 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 12.
		No	Go to the next step.
7	**INSPECT DC-DC CONVERTER SIGNAL CIRCUIT FOR SHORT TO GROUND** • Verify that the DC-DC converter and front body control module (FBCM) connectors are disconnected. • Inspect for continuity between DC-DC converter terminal C (wiring harness-side) and body ground. • Is there continuity?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between DC-DC converter terminal C and front body control module (FBCM) terminal 2H. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to ground. Go to Step 12.
		No	Go to the next step.

STEP	INSPECTION		ACTION
8	**INSPECT FRONT BODY CONTROL MODULE (FBCM) CIRCUIT FOR SHORT TO GROUND** • Verify that the DC-DC converter and front body control module (FBCM) connectors are disconnected. • Inspect for continuity between the following terminals (wiring harness-side) and body ground: — Front body control module (FBCM) terminal 2P — Front body control module (FBCM) terminal 2N • Is there continuity?	Yes	If the short to ground circuit could be detected in the wiring harness: • Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals: — Front body control module (FBCM) terminal 2P—PCM terminal 2AK — Front body control module (FBCM) terminal 2N—PCM terminal 2AL **If there is a common connector:** — Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground. — Repair or replace the malfunctioning part. **If there is no common connector:** — Repair or replace the wiring harness which has a short to ground. If the short to ground circuit could not be detected in the wiring harness: • Replace the front body control module (FBCM) or DC-DC converter. (See FRONT BODY CONTROL MODULE (FBCM) REMOVAL/INSTALLATION.) (See DC-DC CONVERTER REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) Go to Step 12.
		No	Go to the next step.
9	**INSPECT DC-DC CONVERTER SIGNAL CIRCUIT FOR OPEN CIRCUIT** • Verify that the DC-DC converter and front body control module (FBCM) connectors are disconnected. • Inspect for continuity between DC-DC converter terminal C (wiring harness-side) and front body control module (FBCM) terminal 2H (wiring harness-side). • Is there continuity?	Yes	Go to the next step.
		No	Refer to the wiring diagram and verify whether or not there is a common connector between DC-DC converter terminal C and front body control module (FBCM) terminal 2H. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has an open circuit. Go to Step 12.
10	**INSPECT DC-DC CONVERTER** • Inspect the DC-DC converter. (See DC-DC CONVERTER INSPECTION [SKYACTIV-D 2.2].) • Is there any malfunction?	Yes	Replace the DC-DC converter, then go to Step 12. (See DC-DC CONVERTER REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Go to the next step.
11	**INSPECT FRONT BODY CONTROL MODULE (FBCM)** • Inspect the front body control module (FBCM). (See FRONT BODY CONTROL MODULE (FBCM) INSPECTION.) • Is there any malfunction?	Yes	Replace the front body control module (FBCM), then go to the next step. (See FRONT BODY CONTROL MODULE (FBCM) REMOVAL/INSTALLATION.)
		No	Go to the next step.

STEP	INSPECTION		ACTION
12	**VERIFY DTC TROUBLESHOOTING COMPLETED** • Always reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [SKYACTIV-D 2.2].) • Implement the repeatability verification procedure. (See Repeatability Verification Procedure.) • Perform the DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].) • Is the same DTC present?	Yes	Repeat the inspection from Step 1.
		No	Go to the next step.
13	**VERIFY AFTER REPAIR PROCEDURE** • Perform the “AFTER REPAIR PROCEDURE”. (See AFTER REPAIR PROCEDURE [SKYACTIV-D 2.2].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-D 2.2].)
		No	DTC troubleshooting completed.