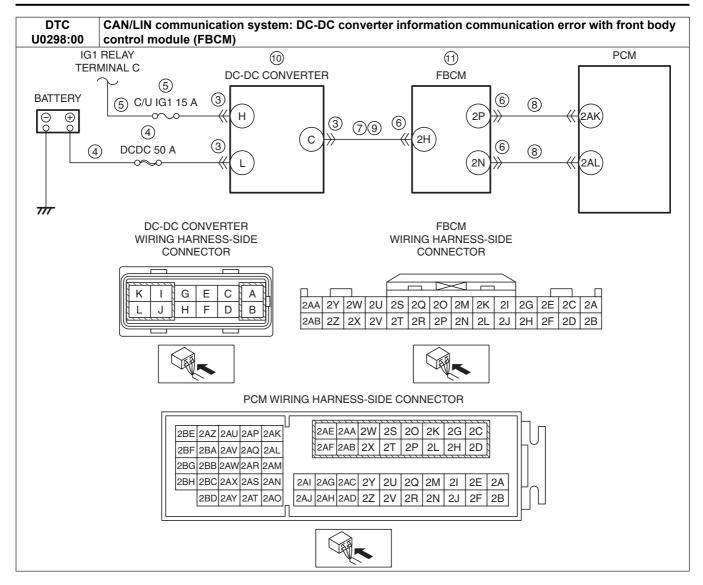
## DTC U0298:00 [SKYACTIV-G 2.0, SKYACTIV-G 2.5]

id0102h4910500

DTC	CAN/LIN communication system: DC-DC converter information communication error with front body				
U0298:00	control module (FBCM)				
DETECTION CONDITION	<ul> <li>PCM detects a DC-DC converter information communication error from front body control module (FBCM).</li> <li>Diagnostic support note</li> <li>This is a continuous monitor (other).</li> <li>The check engine light does not illuminate.</li> <li>FREEZE FRAME DATA (Mode 2)/Snapshot data is not available.</li> <li>DTC is stored in the PCM memory.</li> </ul>				
FAIL-SAFE FUNCTION	SAFE Inhibits engine stop by operating the i stop function				
VEHICLE STATUS WHEN DTCs ARE OUTPUT	Flashes i-stop warning light (amber).				
POSSIBLE CAUSE	<ul> <li>Communication line between DC-DC converter and front body control module (FBCM) malfunction</li> <li>DC-DC converter connector or terminals malfunction</li> <li>Short to ground or open circuit in DC-DC converter power supply circuit</li> <li>Short to ground in wiring harness between DCDC 50 A fuse and DC-DC converter terminal L</li> <li>DCDC 50 A fuse malfunction</li> <li>Open circuit in wiring harness between battery positive terminal and DC-DC converter terminal L</li> <li>Short to ground or open circuit in DC-DC converter power supply circuit</li> <li>Short to ground in wiring harness between C/U IG1 15 A fuse and DC-DC converter terminal H</li> <li>C/U IG1 15 A fuse malfunction</li> <li>Open circuit in wiring harness between IG1 relay terminal C and DC-DC converter terminal H</li> <li>Front body control module (FBCM) connector or terminals malfunction</li> <li>Short to ground in wiring harness between the following terminals:</li> <li>DC-DC converter terminal C—Front body control module (FBCM) terminal 2H</li> <li>Front body control module (FBCM) terminal 2P—PCM terminal 2AK</li> <li>Front body control module (FBCM) terminal 2N—PCM terminal 2AL</li> <li>Open circuit in wiring harness between DC-DC converter terminal C and front body control module (FBCM) terminal 2H</li> <li>DC-DC converter malfunction</li> <li>Front body control module (FBCM) malfunction</li> </ul>				



## **Repeatability Verification Procedure**

- Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
- 2. Start the engine.

## **Diagnostic Procedure**

STEP	INSPECTION		ACTION
1	VERIFY RELATED SERVICE INFORMATION	Yes	Perform repair or diagnosis according to the available
	AVAILABILITY		Service Information.
	Verify related Service Information availability.		If the vehicle is not repaired, go to the next step.
	Is any related Service Information available?	No	Go to the next step.
2	VERIFY RELATED PENDING CODE AND/OR	Yes	Go to the applicable PENDING CODE or DTC inspection.
	DTC		(See DTC TABLE [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
	Switch the ignition off, then ON (engine off).	No	Go to the next step.
	Perform the Pending Trouble Code Access		
	Procedure and DTC Reading Procedure.		
	(See ON-BOARD DIAGNOSTIC TEST		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)		
	Are any other PENDING CODEs and/or DTCs		
	present?		

STEP   INSPECTION	nals, then go to
CONDITION  Step 12.  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?  INSPECT DC-DC CONVERTER POWER SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT Verify that the DC-DC converter connector is disconnected.  Step 12.  No Go to the next step.  Yes Go to the next step.  Inspect the DCDC 50 A fuse. If the fuse is burnt out:  Refer to the wiring diagram and verify there is a common connector between	
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?  INSPECT DC-DC CONVERTER POWER SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT     Verify that the DC-DC converter connector is disconnected.  No Go to the next step.  Yes Go to the next step.  Inspect the DCDC 50 A fuse.  If the fuse is burnt out:  Refer to the wiring diagram and verify there is a common connector between	
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pulled-out pins, corrosion).  • Is there any malfunction?  4 INSPECT DC-DC CONVERTER POWER SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT  • Verify that the DC-DC converter connector is disconnected.  Page 4 Go to the next step. Inspect the DCDC 50 A fuse.  • If the fuse is burnt out:  — Refer to the wiring diagram and verify there is a common connector between	
INSPECT DC-DC CONVERTER POWER     SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT     • Verify that the DC-DC converter connector is disconnected.        Step and malfunction?  Yes Go to the next step.  No Inspect the DCDC 50 A fuse.  If the fuse is burnt out:  Refer to the wiring diagram and verify there is a common connector between.	
4 INSPECT DC-DC CONVERTER POWER SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT  • Verify that the DC-DC converter connector is disconnected.  Yes Go to the next step.  No Inspect the DCDC 50 A fuse.  • If the fuse is burnt out:  — Refer to the wiring diagram and verify there is a common connector between	
SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT  • Verify that the DC-DC converter connector is disconnected.  No Inspect the DCDC 50 A fuse.  • If the fuse is burnt out:  — Refer to the wiring diagram and verify there is a common connector between	
<ul> <li>OPEN CIRCUIT</li> <li>Verify that the DC-DC converter connector is disconnected.</li> <li>If the fuse is burnt out:         <ul> <li>Refer to the wiring diagram and verify there is a common connector between</li> </ul> </li> </ul>	
• Verify that the DC-DC converter connector is disconnected.  — Refer to the wiring diagram and verify there is a common connector between	
disconnected. there is a common connector between	
	whether or not
• Magaziro the voltage at the DC DC convertor five and DC DC convertor terminal I	DCDC 50 A
terminal L (wiring harness-side).	
• Is the voltage <b>B+</b> ?  • Determine the malfunctioning part by	
common connector and the terminal t	
damage, or pin disconnection, and th	e 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:	whather or not
Refer to the wiring diagram and verify there is a common connector between	
terminal and DC-DC converter terminal	
If there is a common connector:	I L.
Determine the malfunctioning part by	inspecting the
common connector and the terminal t	
damage, or pin disconnection, and the	
wiring harness for an open circuit.	
Repair or replace the malfunctioning	part.
If there is no common connector:	r = <del></del>
Repair or replace the wiring harness	which has an
open circuit.	
Go to Step 12.	

STEP	INSPECTION		ACTION
5	INSPECT DC-DC CONVERTER POWER	Yes	Go to the next step.
	SUPPLY CIRCUIT FOR SHORT TO GROUND OR	No	Inspect the C/U IG1 15 A fuse.
	OPEN CIRCUIT		If the fuse is burnt out:
	<ul> <li>Verify that the DC-DC converter connector is</li> </ul>		<ul> <li>Refer to the wiring diagram and verify whether or not</li> </ul>
	disconnected.		there is a common connector between C/U IG1 15 A
	Switch the ignition ON (engine off).		fuse and DC-DC converter terminal H.
	Measure the voltage at the DC-DC converter		If there is a common connector:
	terminal H (wiring harness-side).		Determine the malfunctioning part by inspecting the
	• Is the voltage B+?		common connector and the terminal for corrosion,
			damage, or pin disconnection, and the common
			wiring harness for a short to ground.
			<ul> <li>Repair or replace the malfunctioning part.</li> </ul>
			If there is no common connector:
			<ul> <li>Repair or replace the wiring harness which has a</li> </ul>
			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.
6	INSPECT FRONT BODY CONTROL MODULE	Yes	Go to Step 12.  Repair or replace the connector and/or terminals, then go to
	(FBCM) CONNECTOR CONDITION	165	Step 12.
	Switch the ignition off.	No	Go to the next step.
	Disconnect the front body control module (FBCM)		
	connector.		
	• Inspect for poor connection (such as damaged/		
	pulled-out pins, corrosion).		
	Is there any malfunction?		
7	INSPECT DC-DC CONVERTER SIGNAL	Yes	,
	CIRCUIT FOR SHORT TO GROUND		is a common connector between DC-DC converter terminal
	<ul> <li>Verify that the DC-DC converter and front body</li> </ul>		C and front body control module (FBCM) terminal 2H.
	control module (FBCM) connectors are		If there is a common connector:
	disconnected.		Determine the malfunctioning part by inspecting the
	• Inspect for continuity between DC-DC converter		common connector and the terminal for corrosion,
	terminal C (wiring harness-side) and body ground.		damage, or pin disconnection, and the common wiring
	Is there continuity?		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.
		N.I.	Go to Step 12.
		No	Go to the next step.

STEP	INSPECTION		ACTION
8	INSPECT FRONT BODY CONTROL MODULE	Yes	If the short to ground circuit could be detected in the wiring
	(FBCM) CIRCUIT FOR SHORT TO GROUND		harness:
	<ul> <li>Verify that the DC-DC converter and front body</li> </ul>		• Refer to the wiring diagram and verify whether or not there
	control module (FBCM) connectors are		is a common connector between the following terminals:
	disconnected.		<ul> <li>Front body control module (FBCM) terminal 2P—PCM</li> </ul>
	<ul> <li>Inspect for continuity between the following</li> </ul>		terminal 2AK
	terminals (wiring harness-side) and body ground:		<ul> <li>Front body control module (FBCM) terminal 2N—PCM</li> </ul>
	<ul> <li>Front body control module (FBCM) terminal</li> </ul>		terminal 2AL
	2P		If there is a common connector:
	<ul> <li>Front body control module (FBCM) terminal</li> </ul>		<ul> <li>Determine the malfunctioning part by inspecting the</li> </ul>
	2N		common connector and the terminal for corrosion,
	Is there continuity?		damage, or pin disconnection, and the common wiring
			harness for a short to ground.
			<ul> <li>Repair or replace the malfunctioning part.</li> </ul>
			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     acquarter.
			converter. (See FRONT BODY CONTROL MODULE (FBCM)
			REMOVAL/INSTALLATION.)
			(See DC-DC CONVERTER REMOVAL/INSTALLATION
			[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
			Go to Step 12.
		No	Go to the next step.
9	INSPECT DC-DC CONVERTER SIGNAL	Yes	Go to the next step.
	CIRCUIT FOR OPEN CIRCUIT	No	Refer to the wiring diagram and verify whether or not there
	<ul> <li>Verify that the DC-DC converter and front body</li> </ul>		is a common connector between DC-DC converter terminal
	control module (FBCM) connectors are		C and front body control module (FBCM) terminal 2H.
	disconnected.		If there is a common connector:
	<ul> <li>Inspect for continuity between DC-DC converter</li> </ul>		Determine the malfunctioning part by inspecting the
	terminal C (wiring harness-side) and front body		common connector and the terminal for corrosion,
	control module (FBCM) terminal 2H (wiring		damage, or pin disconnection, and the common wiring
	harness-side).		harness for an open circuit.
	Is there continuity?		Repair or replace the malfunctioning part.
			If there is no common connector:
			Repair or replace the wiring harness which has an open
			circuit.
10	INSPECT DC-DC CONVERTER	Voc	Go to Step 12.  Replace the DC-DC converter, then go to Step 12.
10	• Inspect the DC-DC converter.	Yes	(See DC-DC CONVERTER REMOVAL/INSTALLATION
	(See DC-DC CONVERTER INSPECTION		[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)	No	Go to the next step.
	• Is there any malfunction?	140	Ou to the flext step.
11	INSPECT FRONT BODY CONTROL MODULE	Yes	Replace the front body control module (FBCM), then go to
	(FBCM)		the next step.
	<ul> <li>Inspect the front body control module (FBCM).</li> </ul>		(See FRONT BODY CONTROL MODULE (FBCM)
	(See FRONT BODY CONTROL MODULE		REMOVAL/INSTALLATION.)
	(FBCM) INSPECTION.)	No	Go to the next step.
	Is there any malfunction?		

STEP	INSPECTION		ACTION
12	VERIFY DTC TROUBLESHOOTING	Yes	Repeat the inspection from Step 1.
	COMPLETED	No	Go to the next step.
	Always reconnect all disconnected connectors.		
	Clear the DTC from the PCM memory using the		
	M-MDS.		
	(See AFTER REPAIR PROCEDURE		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)		
	Implement the repeatability verification		
	procedure.		
	(See Repeatability Verification Procedure.)		
	Perform the DTC Reading Procedure.		
	(See ON-BOARD DIAGNOSTIC TEST		
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)		
	Is the same DTC present?		
13	VERIFY AFTER REPAIR PROCEDURE	Yes	Go to the applicable DTC inspection.
	Perform the "AFTER REPAIR PROCEDURE".		(See DTC TABLE [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
	(See AFTER REPAIR PROCEDURE	No	DTC troubleshooting completed.
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)		
	Are any DTCs present?		