## DTC B109A:12 [FRONT BODY CONTROL MODULE (FBCM)]

id0902p2007200

System malfunction location	Headlight HI relay circuit malfunction					
Detection	• The front body control module (FBCM) detects a short to power supply in the headlight HI relay circuit with					
condition	the ignition switched ON (engine off or on).					
Fail-safe	_					
Possible cause	<ul> <li>Headlight HI relay malfunction</li> <li>Front body control module (FBCM) connector or terminal malfunction</li> <li>Short to power supply in the wiring harness between headlight HI relay terminal E and front body control module (FBCM) terminal 2X</li> <li>Front body control module (FBCM) malfunction</li> </ul>					
BATTERY	HEADLIGHT HI RELAY					
(D) (B)	MAIN 200 A H/L HI 20 A  A  W E  TBCM  2X					
	HEADLIGHT HI RELAY FBCM (RELAY AND FUSE BLOCK) WIRING HARNESS-SIDE CONNECTOR					
	E A FRONT 2AA 2Y 2W 2U 2S 2Q 2O 2M 2K 2I 2G 2E 2C 2A 2AB 2Z 2X 2V 2T 2R 2P 2N 2L 2J 2H 2F 2D 2B					

Diagnostic Procedure

Step	Inspection		Action
1	VERIFY FRONT BODY CONTROL MODULE	Yes	Go to the next step.
	(FBCM) DTCs AGAIN	No	Go to Step 6.
	Clear front body control module (FBCM) DTCs		
	using the M-MDS.		
	(See CLEARING DTC [FRONT BODY		
	CONTROL MODULE (FBCM)].)		
	Switch the ignition ON (engine off or on).		
	<ul> <li>Perform the front body control module (FBCM)</li> </ul>		
	DTC inspection using the M-MDS.		
	(See DTC INSPECTION [FRONT BODY		
	CONTROL MODULE (FBCM)].)		
	Is DTC B109A:12 displayed?		

Step	Inspection		Action		
2	INSPECT HEADLIGHT HI RELAY FOR	Yes	Go to the next step.		
	MALFUNCTION	No	Replace the headlight HI relay, then go to Step 5.		
	Switch the ignition to off.		3, 3, 1		
	Disconnect the negative battery cable.				
	(See NEGATIVE BATTERY CABLE				
	DISCONNECTION/CONNECTION				
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)				
	(See NEGATIVE BATTERY CABLE				
	DISCONNECTION/CONNECTION				
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5				
	(WITHOUT i-stop)].)				
	(See NEGATIVE BATTERY CABLE				
	DISCONNECTION/CONNECTION				
	[SKYACTIV-D 2.2].)				
	• Remove the headlight HI relay.				
	Inspect the headlight HI relay.				
	(See RELAY INSPECTION.)				
	• Is the headlight HI relay normal?				
3	INSPECT FRONT BODY CONTROL MODULE	Yes	Go to the next step.		
	(FBCM) CONNECTOR CONDITION	No	Repair or replace the connector, then go to Step 5.		
	Disconnect the front body control module	''	Tropali of replace the confidence, their go to ctop o.		
	(FBCM) connector.				
	Inspect the connector engagement and				
	connection condition and inspect the terminals				
	for damage, deformation, corrosion, or				
	disconnection.				
	• Is the connector normal?				
4	INSPECT HEADLIGHT HI RELAY CONTROL	Yes	Go to the next step.		
	CIRCUIT FOR SHORT TO POWER SUPPLY	No	Repair or replace the wiring harness and go to the next		
	Verify that the headlight HI relay is removed.		step.		
	Verify that the front body control module				
	(FBCM) connector is disconnected.				
	Connect the negative battery cable.				
	(See NEGATIVE BATTERY CABLE				
	DISCONNECTION/CONNECTION				
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5].)				
	(See NEGATIVE BATTERY CABLE				
	DISCONNECTION/CONNECTION				
	[SKYACTIV-G 2.0, SKYACTIV-G 2.5				
	(WITHOUT i-stop)].)				
	(See NEGATIVE BATTERY CABLE				
	DISCONNECTION/CONNECTION				
	[SKYACTIV-D 2.2].)				
	• Switch the ignition ON (engine off or on).				
	Measure the voltage at front body control				
	module (FBCM) terminal 2X (vehicle wiring				
	harness side).				
	• Is the voltage <b>0 V</b> ?				
	io the voltage v v:				

Step	Inspection		Action
5 5	VERIFY THAT REPAIRS HAVE BEEN COMPLETED  • Reconnect all the disconnected connectors. • Reconnect the disconnected negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].) • Clear front body control module (FBCM) DTCs using the M-MDS. (See CLEARING DTC [FRONT BODY CONTROL MODULE (FBCM)].) • Switch the ignition ON (engine off or on). • Operate the light switch in HEAD position and the dimmer switch in HI position. • Perform the front body control module (FBCM) DTC inspection using the M-MDS. (See DTC INSPECTION [FRONT BODY CONTROL MODULE (FBCM)].)	Yes	Repeat the inspection from Step 1.  • If the malfunction recurs, replace the front body control module (FBCM), then go to the next step. (See FRONT BODY CONTROL MODULE (FBCM) REMOVAL/INSTALLATION.)  Go to the next step.
6	Is DTC B109A:12 displayed?      VERIFY IF OTHER DTCs DISPLAYED      Are any other DTCs displayed?	Yes	Repair the malfunctioning part according to the applicable DTC troubleshooting.
		No	(See DTC TABLE [FRONT BODY CONTROL MODULE (FBCM)].) DTC troubleshooting completed.