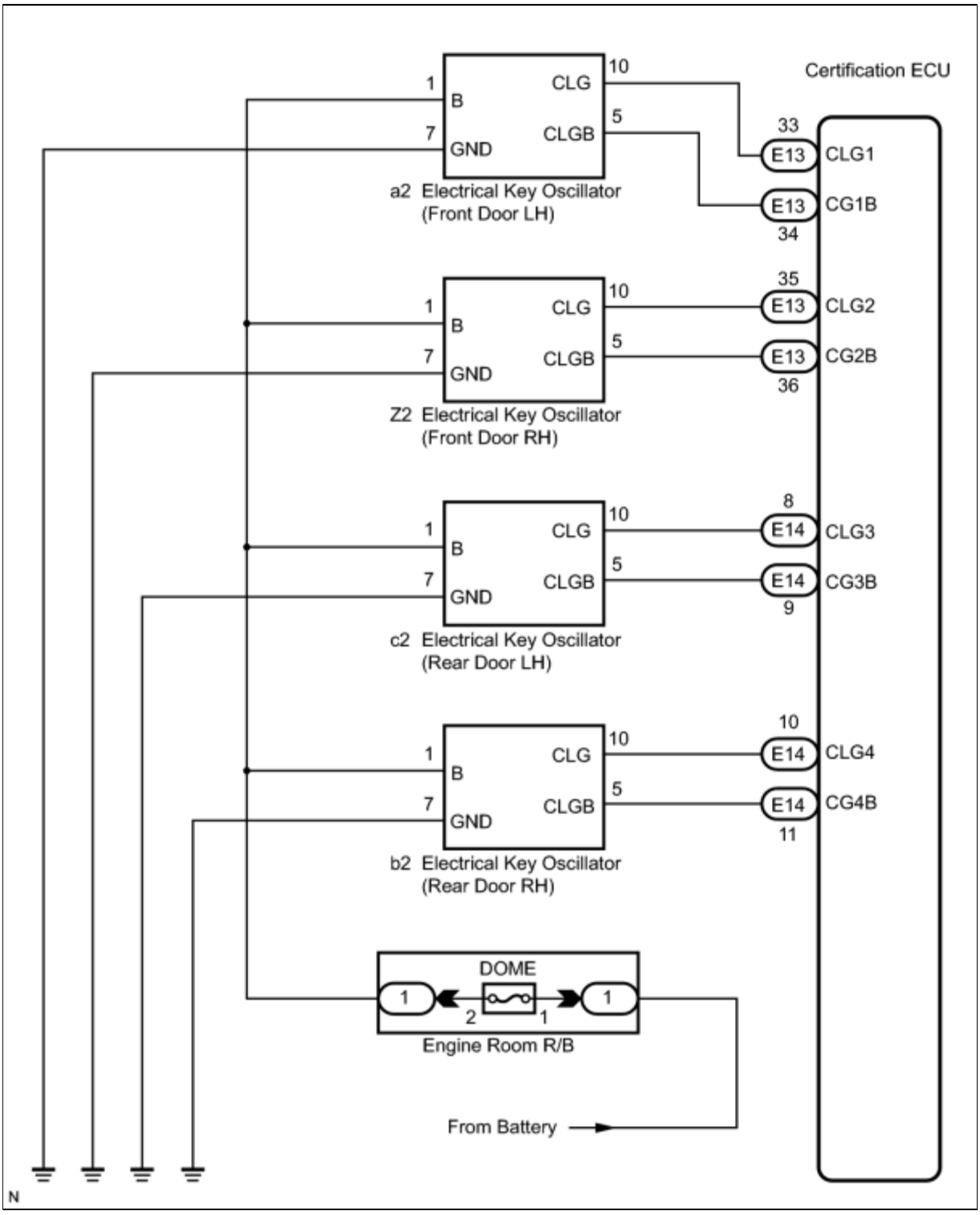
Last Modified: 7-13-2007		1.7 J
Service Category: Vehicle Interior	**Section:** Door Lock	
Model Year: 2008	**Model:** ES350	**Doc ID:** RM000001P8V00LX
Title: DOOR LOCK: SMART ACCESS SYSTEM WITH PUSH-BUTTON START: Door Oscillator Circuit (2008 ES350)		

Door Oscillator Circuit

DESCRIPTION

Door oscillators are built into each door. Each of them forms its own action area around its door and detects the presence of the electrical key.

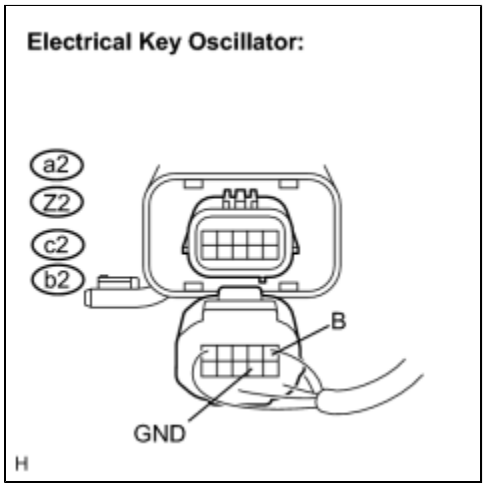
WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	INSPECT ELECTRICAL KEY OSCILLATOR



(a) Disconnect the oscillator connectors.

(b) Measure the voltage according to the value(s) in the table below.

Standard voltage:

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
a2-1 (B) - a2-7 (GND)	Always	10 to 14 V

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
Z2-1 (B) - Z2-7 (GND)	Always	10 to 14 V

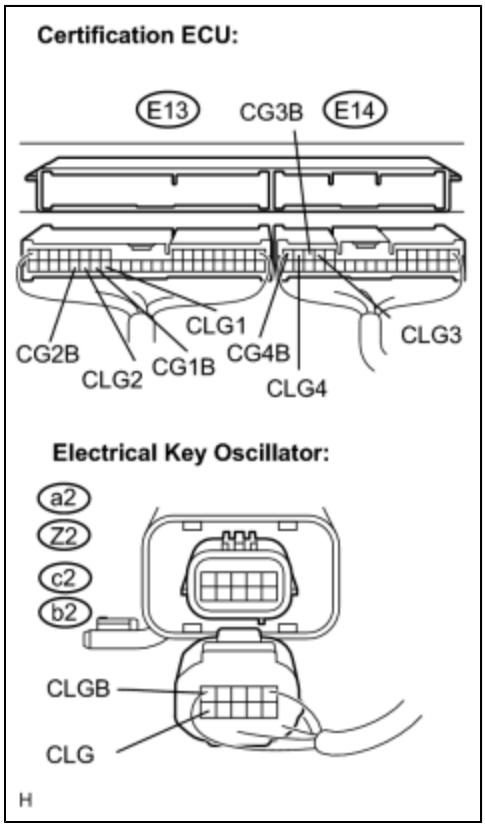
TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
c2-1 (B) - c2-7 (GND)	Always	10 to 14 V

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
b2-1 (B) - b2-7 (GND)	Always	10 to 14 V

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

2.	**CHECK HARNESS AND CONNECTOR (ELECTRICAL KEY OSCILLATOR - CERTIFICATION ECU)**



(a) Disconnect the E13 and E14 ECU connectors.

(b) Measure the resistance according to the value(s) in the table below.

Standard resistance:

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
E13-33 (CLG1) - a2-10 (CLG)	Always	Below 1 Ω
E13-34 (CG1B) - a2-5 (CLGB)	Always	Below 1 Ω
E13-33 (CLG1) - Body ground	Always	10 kΩ or higher
E13-34 (CG1B) - Body ground	Always	10 kΩ or higher

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
E13-35 (CLG2) - Z2-10 (CLG)	Always	Below 1 Ω
E13-36 (CG2B) - Z2-5 (CLGB)	Always	Below 1 Ω
E13-35 (CLG2) - Body ground	Always	10 kΩ or higher
E13-36 (CG2B) - Body ground	Always	10 kΩ or higher

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
E14-8 (CLG3) - c2-10 (CLG)	Always	Below 1 Ω
E14-9 (CG3B) - c2-5 (CLGB)	Always	Below 1 Ω
E14-8 (CLG3) - Body ground	Always	10 kΩ or higher
E14-9 (CG3B) - Body ground	Always	10 kΩ or higher

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION

E14-10 (CLG4) - b2-10 (CLG)	Always	Below 1 Ω
E14-11 (CG4B) - b2-5 (CLGB)	Always	Below 1 Ω
E14-10 (CLG4) - Body ground	Always	10 kΩ or higher
E14-11 (CG4B) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**CHECK AND REPLACE ELECTRICAL KEY OSCILLATOR (CHECK OPERATION OF OSCILLATOR)**

(a) Replace the door oscillator.

(b) Check that the entry LOCK/UNLOCK function operates normally.

OK:

Entry LOCK/UNLOCK function operates normally.

OK ▶ **END (ELECTRICAL KEY OSCILLATOR IS DEFECTIVE)**

NG ▼

4.	**PERFORM ACTIVE TEST BY TECHSTREAM (CERTIFICATION ECU OUTPUT SIGNAL)**

(a) Reconnect the ECU and the oscillator connectors.

(b) Connect Techstream to the DLC3.

(c) Turn the engine switch on (IG).

(d) Turn the tester on.

(e) Enter the following menus: Body Electrical / Smart Access / Active Test.

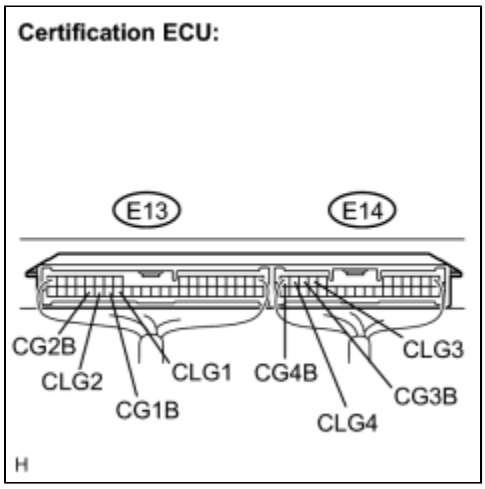
(f) Perform the Active Test according to the display on the tester.

Smart Access:

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
D Transmitter	Driver door electrical key oscillator	ON/OFF	-
P Transmitter	Passenger door electrical key oscillator	ON/OFF	-
DR Transmitter	Rear door electrical key oscillator RH	ON/OFF	-
PR Transmitter	Rear door electrical key oscillator LH	ON/OFF	-

(g) Measure the frequency according to the value(s) in the table below.

Standard:



TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
E13-33 (CLG1) - E13-34 (CG1B)	During Active Test	Frequency is generated (higher than 0 Hz)

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
E13-35 (CLG2) - E13-36 (CG2B)	During Active Test	Frequency is generated (higher than 0 Hz)

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
E14-8 (CLG3) - E14-9 (CG3B)	During Active Test	Frequency is generated (higher than 0 Hz)

TESTER CONNECTION (SYMBOLS)	CONDITION	SPECIFIED CONDITION
E14-10 (CLG4) - E14-11 (CG4B)	During Active Test	Frequency is generated (higher than 0 Hz)

NG ▶ **REPLACE CERTIFICATION ECU**

OK ▶ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**