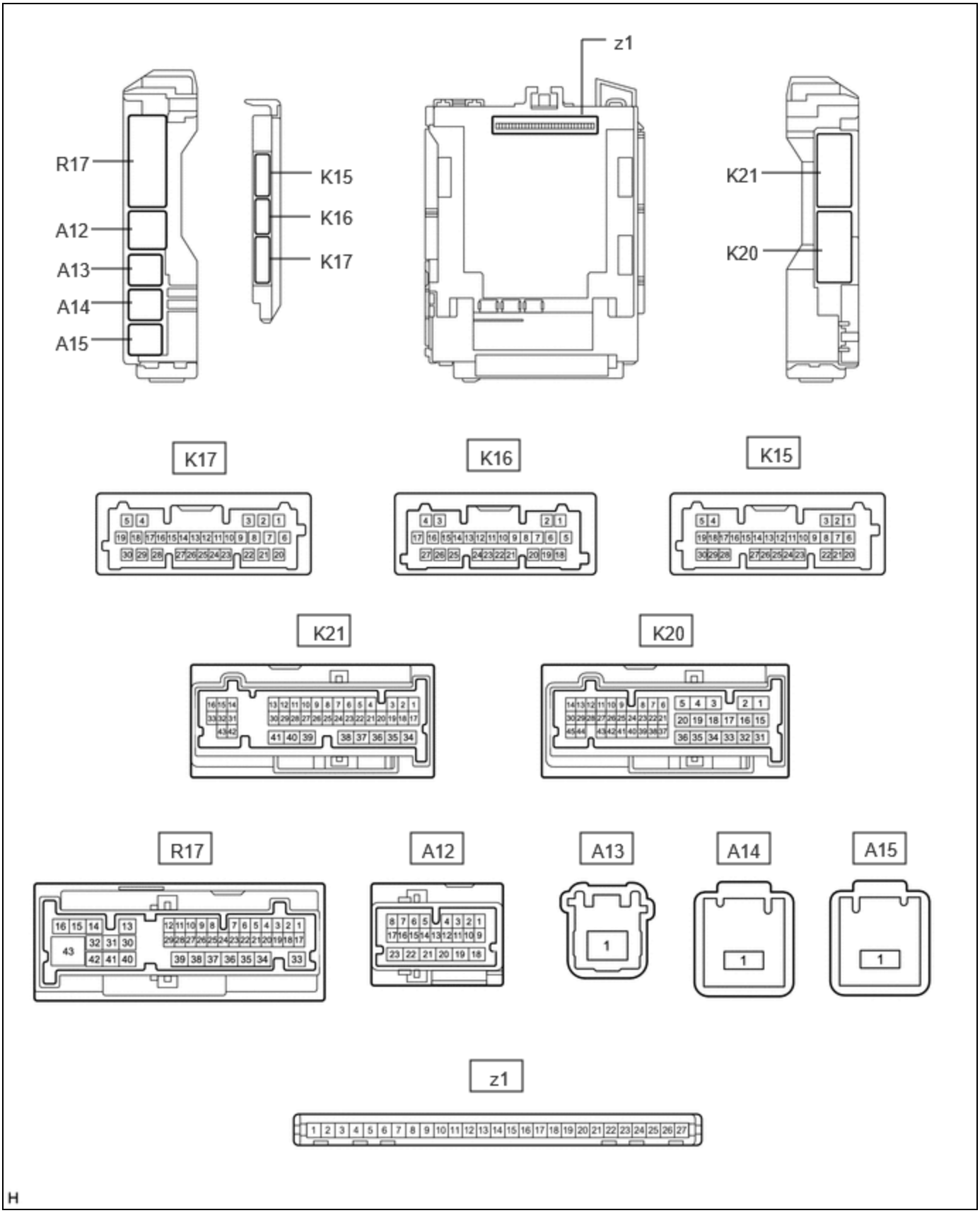
Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM10000000299KC
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: DOOR LOCK: WIRELESS DOOR LOCK CONTROL SYSTEM: TERMINALS OF ECU; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

TERMINALS OF ECU

CHECK POWER DISTRIBUTION BOX ASSEMBLY AND MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU)



(a) Remove the main body ECU (multiplex network body ECU) from the power distribution box assembly.

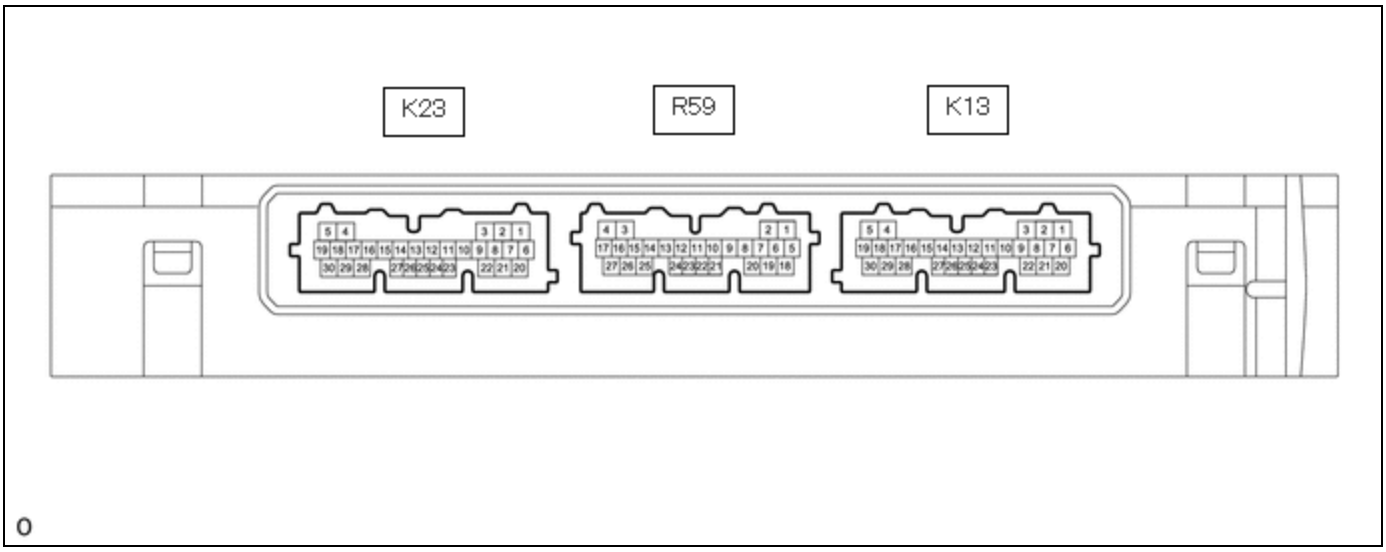
Click here INFO

(b) Reconnect the power distribution box assembly connectors.

(c) Measure the voltage and resistance according to the value(s) in the table below.

TERMINAL NO. (SYMBOL)	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
z1-13 (GND1) - Body ground	Ground	Always	Below 1 Ω
z1-14 (GND2) - Body ground	Ground	Always	Below 1 Ω
z1-26 (BECU) - Body ground	Auxiliary battery power supply	Ignition switch off	11 to 14 V
z1-27 (IGR) - Body ground	IG power supply	Ignition switch ON	11 to 14 V
		Ignition switch off	Below 1 V

CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)



(a) Disconnect the K13 certification ECU (smart key ECU assembly) connector.

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

HINT:

Measure the values on the wire harness side with the connector disconnected.

TERMINAL NO. (SYMBOL)	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
K13-6 (+B) - K13-29 (E)	Auxiliary battery power supply	Ignition switch off	11 to 14 V
K13-29 (E) - Body ground	Ground	Always	Below 1 Ω

(c) Reconnect the K13 certification ECU (smart key ECU assembly) connector.

(d) Check for pulses according to the value(s) in the table below.

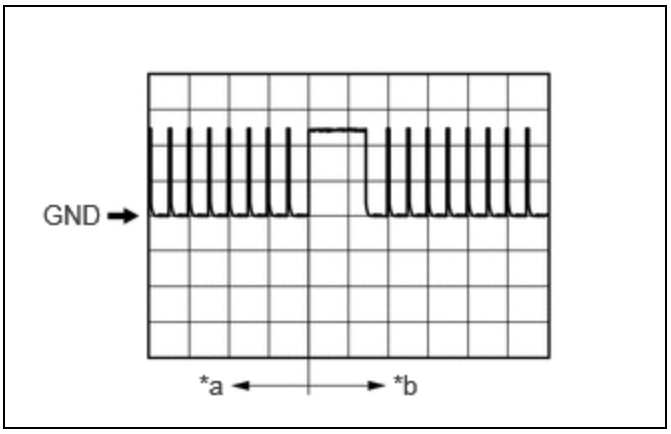
TERMINAL NO. (SYMBOL)	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
R59-21 (RCO) - K13-29 (E)	Output to electrical key and tire pressure monitoring system receiver assembly (Power supply for electrical key and tire pressure monitoring system receiver assembly. Certification ECU (smart key ECU assembly) outputs 5 V when receiver starts operating.)	**Procedure:** 1. Turn ignition switch off 2. Bring electrical key transmitter sub-assembly outside detection area but within wireless function operational area	Plus generation (See waveform 1)

TERMINAL NO. (SYMBOL)	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
		3. Press lock or unlock switch of electrical key transmitter sub-assembly	
R59-11 (RDAM) - K13-29 (E)	Electrical key and tire pressure monitoring system receiver assembly communication circuit	**Procedure:** 1. Turn ignition switch off 2. Lock all doors 3. Bring electrical key transmitter sub-assembly outside detection area but within wireless function operational area 4. Press lock or unlock switch of electrical key transmitter sub-assembly	Plus generation (See waveform 2)
R59-12 (CSEL) - K13-29 (E)	Communication channel switching circuit	**Procedure:** 1. Turn ignition switch off 2. Close all doors	No pulse generation → Pulse generation

(e) Using an oscilloscope, check waveform 1.

HINT:

The oscilloscope waveform shown in the illustration is an example for reference only. Noise, chattering, etc. are not shown.



*a	Before lock or unlock switch of electrical key transmitter sub-assembly pressed
*b	After lock or unlock switch of electrical key transmitter sub-assembly pressed

Waveform 1 (Reference)

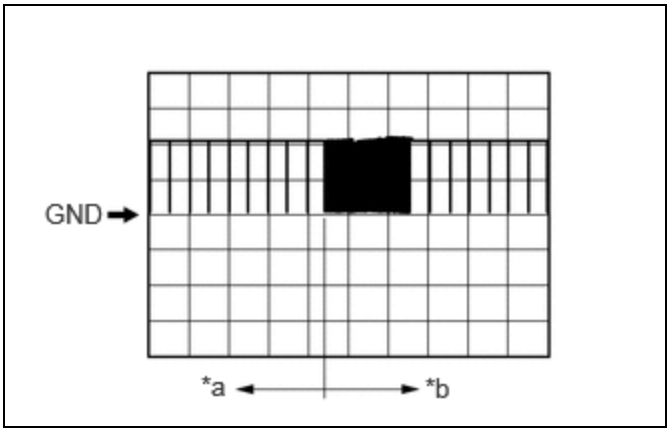
ITEM	CONTENT
Tester connection	R59-21 (RCO) - K13-29 (E)
Tool setting	2 V/DIV., 500 ms/DIV.

ITEM	CONTENT
Condition	Procedure: 1. Turn ignition switch off 2. Bring electrical key transmitter sub-assembly outside detection area but within wireless function operational area 3. Electrical key transmitter sub-assembly not inside vehicle 4. Press lock or unlock switch of electrical key transmitter sub-assembly

(f) Using an oscilloscope, check waveform 2.

HINT:

The oscilloscope waveform shown in the illustration is an example for reference only. Noise, chattering, etc. are not shown.



*a	Before lock or unlock switch of electrical key transmitter sub-assembly pressed
*b	After lock or unlock switch of electrical key transmitter sub-assembly pressed

Waveform 2 (Reference)

ITEM	CONTENT
Tester connection	R59-11 (RDAM) - K13-29 (E)
Tool setting	5 V/DIV., 500 ms/DIV.
Condition	Procedure: 1. Turn ignition switch off 2. Lock all doors 3. Bring electrical key transmitter sub-assembly outside detection area but within wireless function operational area 4. Press lock or unlock switch of electrical key transmitter sub-assembly