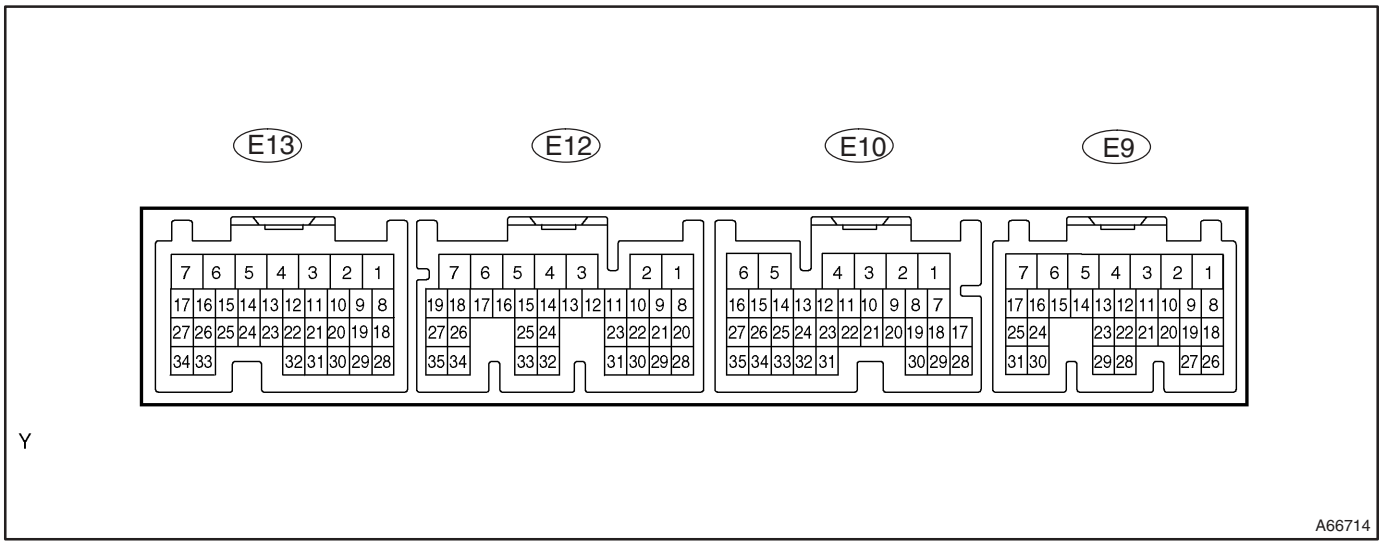
054KK–23

TERMINALS OF ECM



HINT:
Each ECM terminal's standard normal voltage is shown in the table below.
In the table, first follow the information under "Condition." Look under "Symbols (Terminals No.)" for the terminals to be inspected. The standard normal voltage between the terminals is shown under "STD Voltage."
Use the illustration above as a reference for the ECM terminals.

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	STD Voltage
BATT (E9–3) – E1 (E13–5)	B–Y – BR	Battery (for measuring the battery voltage and for the ECM memory)	Always	9 to 14 V
+BM (E10–6) – ME01 (E12–3)	G–Y – W–B	Power source of throttle motor	Always	9 to 14 V
IGSW (E9–9) – E1 (E13–5)	B–W – BR	Ignition switch	Ignition switch ON	9 to 14 V
+B (E9–1) – E1 (E13–5)	B–R – BR	Power source of ECM	Ignition switch ON	9 to 14 V
MREL (E10–4) – E01 (E13–7)	GR – W–B	EFI relay	Ignition switch ON	9 to 14 V
VC (E13–18) – E2 (E13–28)	R–W – BR	Power source of sensor (a specific voltage)	Ignition switch ON	4.5 to 5.5 V
VTA1 (E13–21) – E2 (E13–28)	L–W – BR	Throttle position sensor (for engine control)	Ignition switch ON, Accelerator pedal fully released	0.4 to 1.0 V
VTA1 (E13–21) – E2 (E13–28)	L–W – BR	Throttle position sensor (for engine control)	Ignition switch ON, Accelerator pedal fully depressed	3.2 to 4.8 V
VTA2 (E13–31) – E2 (E13–28)	B–R – BR	Throttle position sensor (for sensor malfunction detection)	Ignition switch ON, Accelerator pedal fully released	2.1 to 3.1 V
VTA2 (E13–31) – E2 (E13–28)	B–R – BR	Throttle position sensor (for sensor malfunction detection)	Ignition switch ON, Accelerator pedal fully depressed	4.5 to 5.0 V
VPA (E9–22) – EPA (E9–28)	G – Y	Accelerator pedal position sensor (for engine control)	Ignition switch ON, Accelerator pedal fully released	0.5 to 1.1 V
VPA (E9–22) – EPA (E9–28)	G – Y	Accelerator pedal position sensor (for engine control)	Ignition switch ON, Accelerator pedal fully depressed	2.6 to 4.5 V
VPA2 (E9–23) – EPA2 (E9–29)	W – Y	Accelerator pedal position sensor (for sensor malfunction detection)	Ignition switch ON, Accelerator pedal fully released	1.2 to 2.0 V
VPA2 (E9–23) – EPA2 (E9–29)	W – Y	Accelerator pedal position sensor (for sensor malfunction detection)	Ignition switch ON, Accelerator pedal fully depressed	3.4 to 5.0 V

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	STD Voltage
VCPA (E9–26) – EPA (E9–28)	B – Y	Power source of accelerator pedal position sensor (for VPA)	Ignition switch ON	4.5 to 5.0 V
VCP2 (E9–27) – EPA2 (E9–29)	B – Y	Power source of accelerator pedal position sensor (for VPA2)	Ignition switch ON	4.5 to 5.0 V
VG (E13–30) – EVG (E13–29)	G – L–Y	Mass air flow meter	Idling, Shift position P or N, A/C switch OFF	0.5 to 3.0 V
THA (E13–20) – E2 (E13–28)	G–R – BR	Intake air temperature sensor	Idling, Intake air temperature 20°C (68°F)	0.5 to 3.4 V
THW (E13–19) – E2 (E13–28)	B–W – BR	Engine coolant temperature sensor	Idling, Engine coolant temperature 80°C (176°F)	0.2 to 1.0 V
#10 (E13–1) – E01 (E13–7) #20 (E13–2) – E01 (E13–7) #30 (E13–3) – E01 (E13–7) #40 (E13–4) – E01 (E13–7)	B–R – W–B Y – W–B W – W–B B – W–B	Injector	Ignition switch ON	9 to 14 V
#10 (E13–1) – E01 (E13–7) #20 (E13–2) – E01 (E13–7) #30 (E13–3) – E01 (E13–7) #40 (E13–4) – E01 (E13–7)	B–R – W–B Y – W–B W – W–B B – W–B	Injector	Idling	Pulse generation (See page 05–118)
IGT1 (E13–8) – E1 (E13–5) IGT2 (E13–9) – E1 (E13–5) IGT3 (E13–10) – E1 (E13–5) IGT4 (E13–11) – E1 (E13–5)	R–W – BR P – BR LG–B – BR L–Y – BR	Ignition coil with igniter (ignition signal)	Idling	Pulse generation (See page 05–143)
IGF (E13–24) – E1 (E13–5)	W–R – BR	Ignition coil with igniter (ignition confirmation signal)	Ignition switch ON	4.5 to 5.5 V
IGF (E13–24) – E1 (E13–5)	W–R – BR	Ignition coil with igniter (ignition confirmation signal)	Idling	Pulse generation (See page 05–143)
G2+ (E13–26) – NE– (E13–34)	W – R	Camshaft position sensor	Idling	Pulse generation (See page 05–140)
NE+ (E13–27) – NE– (E13–34)	G – R	Crankshaft position sensor	Idling	Pulse generation (See page 05–136)
FC (E10–16) – E01 (E13–7)	G–Y – W–B	Fuel pump control	Ignition switch ON	9 to 14 V
M+ (E12–5) – E01 (E13–7) M– (E12–4) – E01 (E13–7)	B – W–B W – W–B	Throttle actuator	Idling	Pulse generation
OX1A (E12–22) – E2 (E13–28)	B – BR	Heated oxygen sensor	Maintain engine speed at 2,500 rpm for 2 minutes after warming up the sensor	Pulse generation (See page 05–74)
OX1B (E10–23) – E2– (E13–28)	B – BR	Heated oxygen sensor	Maintain engine speed at 2,500 rpm for 2 minutes after warming up the sensor	Pulse generation (See page 05–100)
HT1A (E12–6) – E03 (E12–7) HT1B (E9–7) – E03 (E12–7)	Y – W–B P – W–B	Heated oxygen sensor heater	Idling	Below 3.0 V
HT1A (E12–6) – E03 (E12–7) HT1B (E9–7) – E03 (E12–7)	Y – W–B P – W–B	Heated oxygen sensor heater	Ignition switch ON	9 to 14 V
KNK1 (E12–1) – EKNK (E12–2)	B – W	Knock sensor	Maintain engine speed at 4,000 rpm after warming up the engine	Pulse generation (See page 05–132)
OCV+ (E13–14) – OCV– (E13–13)	W–G – Y–B	Camshaft timing oil control valve (OCV)	Ignition switch ON	Pulse generation (See page 05–34)
EVP1 (E12–19) – E01 (E13–7)	W–G – W–B	EVAP VSV	Ignition switch ON	9 to 14 V
EVP1 (E12–19) – E01 (E13–7)	W–G – W–B	EVAP VSV	Idling	Pulse generation
STA (E13–12) – E1 (E13–5)	B–Y – BR	Starter signal	Shift position N, Ignition switch START	6.0 V or more

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	STD Voltage
STP (E10–19) – E1 (E13–5)	G–W – BR	Stop lamp switch	Brake pedal depressed	9 to 14 V
STP (E10–19) – E1 (E13–5)	G–W – BR	Stop lamp switch	Brake pedal released	Below 1.5 V
ST1– (E10–12) – E1 (E13–5)	G–W – BR	Stop lamp switch	Ignition switch ON, Brake pedal depressed	Below 1.5 V
ST1– (E10–12) – E1 (E13–5)	G–W – BR	Stop lamp switch	Ignition switch ON, Brake pedal released	7.5 to 14 V
W (E9–11) – E01 (E13–7)	W – W–B	MIL	Idling	9 to 14 V
W (E9–11) – E01 (E13–7)	W – W–B	MIL	Ignition switch ON	Below 3.0 V
TACH (E10–3) – E1 (E13–5)	GR–R – BR	Engine speed	Idling	Pulse generation
SPD (E10–17) – E01 (E13–7)	V–W – W–B	Speed signal from combination meter	Ignition switch ON, Rotate driving wheel slowly	Pulse generation (See page 05–158)
TC (E9–20) – E1 (E13–5)	W–L – BR	Terminal TC of DLC3	Ignition switch ON	9 to 14 V
SIL (E10–15) – E1 (E13–5)	W–G – BR	Terminal SIL of DLC3	Connect the intelligent tester II to the DLC3	Pulse generation
ELS (E9–12) – E1 (E13–5)	G – BR	Electric load	Taillamp switch OFF	0 to 1.5 V
ELS (E9–12) – E1 (E13–5)	G – BR	Electric load	Taillamp switch ON	9 to 14 V
F/PS (E9–14) – E1 (E13–5)	LG–B – BR	Airbag sensor assembly	Ignition switch ON	Below 1.5 V