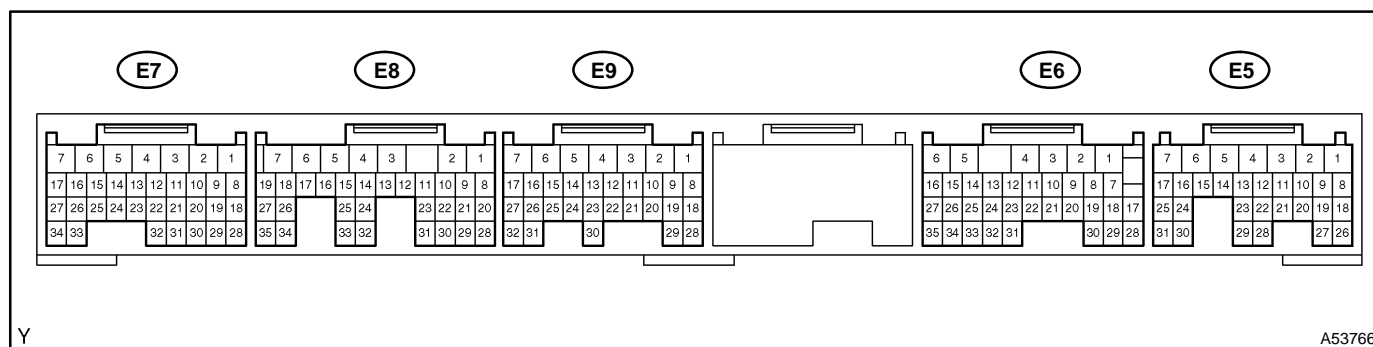


TERMINALS OF ECM



Each ECM terminal's standard voltage is shown in the table below.

In the table, first follow the information under "Condition". Next look under "Symbols (Terminal No.)" for the terminals to be inspected. The standard voltage between the terminals is shown under "Specific Condition". Use the illustration above as a reference for the ECM terminals.

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specific Condition
BATT (E5-3) - E1 (E7-1)	BR - BR	Battery (for measuring battery voltage and for ECM memory)	Always	9 to 14 V
+BM (E6-6) - E1 (E7-1)	W - BR	Power source of throttle motor	Always	9 to 14 V
IGSW (E5-9) - E1 (E7-1)	P - BR	Ignition switch	Ignition switch ON	9 to 14 V
+B (E5-1) - E1 (E7-1)	W - BR	Power source of ECM	Ignition switch ON	9 to 14 V
+B2 (E5-2) - E1 (E7-1)	W - BR	Power source of ECM	Ignition switch ON	9 to 14 V
OC1+ (E9-16) - OC1- (E9-15)	G-W - G-R	Camshaft timing (OCV)	Ignition switch ON	Pulse generation (See page 05-448)
OC2+ (E9-14) - OC2- (E9-13)	L-R - G-B	Camshaft timing (OCV)	Ignition switch ON	Pulse generation (See page 05-448)
MREL (E5-8) - E1 (E7-1)	B - BR	EFI relay	Ignition switch ON	9 to 14 V
VC (E7-18) - E2 (E7-28)	Y - BR	Power source of sensor (specific voltage)	Ignition switch ON	4.5 to 5.5 V
VG (E7-30) - E2G (E7-29)	R - L-W	Mass air flow meter	Idling, shift lever position P or N, A/C switch OFF	0.5 to 3.0 V
THA (E7-20) - E2 (E7-28)	L-B - BR	Intake air temperature sensor	Idling, intake air temp. 20°C (68°F)	0.5 to 3.4 V
THW (E7-19) - E2 (E7-28)	G-B - BR	Engine coolant temperature sensor	Idling, engine coolant temp. 80°C (176°F)	0.2 to 1.0 V
VTA1 (E7-21) - E2 (E7-28)	R-W - BR	Throttle position sensor (for engine control)	Ignition switch ON, throttle valve fully closed	0.5 to 1.2 V
VTA1 (E7-21) - E2 (E7-28)	R-W - BR	Throttle position sensor (for engine control)	Ignition switch ON, throttle valve fully open	3.2 to 4.8 V
VTA2 (E7-31) - E2 (E7-28)	B-R - BR	Throttle position sensor (for sensor malfunction detection)	Ignition switch ON, accelerator pedal released	2.1 to 3.1 V
VTA2 (E7-31) - E2 (E7-28)	B-R - BR	Throttle position sensor (for sensor malfunction detection)	Ignition switch ON, accelerator pedal depressed	4.5 to 5.5 V
VPA (E5-22) - EPA (E5-28)	B - R	Accelerator pedal position sensor (for engine control)	Ignition switch ON, accelerator pedal released	0.5 to 1.1 V
VPA (E5-22) - EPA (E5-28)	B - R	Accelerator pedal position sensor (for engine control)	Ignition switch ON, accelerator pedal depressed	2.6 to 4.5 V

DIAGNOSTICS - SFI SYSTEM (3MZ-FE)

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specific Condition
VPA2 (E5-23) - EPA2 (E5-29)	W - BR	Accelerator pedal position sensor (for sensor malfunction detection)	Ignition switch ON, accelerator pedal released	1.2 to 2.0 V
VPA2 (E5-23) - EPA2 (E5-29)	W - BR	Accelerator pedal position sensor (for sensor malfunction detection)	Ignition switch ON, accelerator pedal depressed	3.4 to 5.3 V
VCPA (E5-26) - EPA (E5-28)	G - R	Power source of accelerator pedal position sensor (for VPA)	Ignition switch ON	4.5 to 5.5 V
VCP2 (E5-27) - EPA2 (E5-29)	L - BR	Power source of accelerator pedal position sensor (for VPA2)	Ignition switch ON	4.5 to 5.5 V
HA1H (E8-5) - E04 (E8-7) HA2A (E8-4) - E05 (E8-6)	B-W - W-B R-W - W-B	A/F sensor heater	Idling	Below 3.0 V
HA1H (E8-5) - E04 (E8-7) HA2A (E8-4) - E05 (E8-6)	B-W - W-B R-W - W-B	A/F sensor heater	Ignition switch ON	9 to 14 V
A1A+ (E8-22) - E1 (E7-1)	BR - BR	A/F sensor	Ignition switch ON	3.0 to 3.6 V
A2A+ (E8-23) - E1 (E7-1)	P - BR	A/F sensor	Ignition switch ON	3.0 to 3.6 V
A1A- (E8-30) - E1 (E7-1)	Y - BR	A/F sensor	Ignition switch ON	2.7 to 3.3 V
A2A- (E8-31) - E1 (E7-1)	L - BR	A/F sensor	Ignition switch ON	2.7 to 3.3 V
HT1B (E8-25) - E2 (E7-28) HT2B (E8-33) - E2 (E7-28)	R-Y - BR W-L - BR	Heated oxygen sensor heater	Idling	Below 3.0 V
HT1B (E8-25) - E2 (E7-28) HT2B (E8-33) - E2 (E7-28)	R-Y - BR W-L - BR	Heated oxygen sensor heater	Ignition switch ON	9 to 14 V
OX1B (E8-21) - E2 (E7-28) OX2B (E8-29) - E2 (E7-28)	W - BR B - BR	Heated oxygen sensor	Maintain engine speed at 2,500 rpm for 2 minutes after warming up	Pulse generation
#10 (E7-1) - E01 (E7-7) #20 (E7-2) - E01 (E7-7) #30 (E7-3) - E01 (E7-7) #40 (E7-4) - E01 (E7-7) #50 (E7-5) - E01 (E7-7) #60 (E8-3) - E01 (E7-7)	L - W-B Y - W-B B - W-B W - W-B B-W - W-B G - W-B	Injector	Ignition switch ON	9 to 14 V
#10 (E7-1) - E01 (E7-7) #20 (E7-2) - E01 (E7-7) #30 (E7-3) - E01 (E7-7) #40 (E7-4) - E01 (E7-7) #50 (E7-5) - E01 (E7-7) #60 (E8-3) - E01 (E7-7)	L - W-B Y - W-B B - W-B W - W-B B-W - W-B G - W-B	Injector	Idling	Pulse generation (See page 05-511)
KNK1 (E8-1) - EKNK (E8-28)	B - W	Knock sensor	Maintain engine speed at 4,000 rpm after warming up	Pulse generation (See page 05-527)
KNK2 (E8-2) - EKN2 (E8-20)	R - G	Knock sensor	Maintain engine speed at 4,000 rpm after warming up	Pulse generation (See page 05-527)
VV1+ (E9-27) - NE- (E9-24)	B-W - G	VVT sensor	Idling	Pulse generation (See page 05-532)
VV2+ (E9-26) - NE- (E9-24)	L - G	VVT sensor	Idling	Pulse generation (See page 05-532)
NE+ (E9-25) - NE- (E9-24)	R - G	Crankshaft position sensor	Idling	Pulse generation (See page 05-532)
IGT1 (E7-8) - E1 (E7-1) IGT2 (E7-9) - E1 (E7-1) IGT3 (E7-10) - E1 (E7-1) IGT4 (E7-11) - E1 (E7-1) IGT5 (E7-12) - E1 (E7-1) IGT6 (E7-13) - E1 (E7-1)	R-L - BR P - BR Y-B - BR L-Y - BR G-Y - BR L-R - BR	Ignition coil with igniter (ignition signal)	Idling	Pulse generation (See page 05-541)

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specific Condition
IGF1 (E7-24) - E1 (E7-1)	W-R - BR	Ignition coil with igniter (ignition confirmation signal)	Ignition switch ON	4.5 to 5.5 V
IGF1 (E7-24) - E1 (E7-1)	W-R - BR	Ignition coil with igniter (ignition confirmation signal)	Idling	Pulse generation (See page 05-541)
PRG (E7-34) - E1 (E7-1)	G - BR	EVAP VSV	Ignition switch ON	9 to 14 V
CCV (E7-27) - E1 (E7-1)	L - BR	CCV	Ignition switch ON	9 to 14 V
PTNK (E5-21) - E1 (E7-1)	L - BR	Vapor pressure sensor	Ignition switch ON	2.9 to 3.7 V
PTNK (E5-21) - E1 (E7-1)	L - BR	Vapor pressure sensor	Ignition switch ON, apply vacuum 4.0 kPa (30 mmHg, 1.18 in.Hg)	Below 0.5 V
SPD (E6-17) - E1 (E7-1)	Y - BR	Speed signal from combination meter	Ignition switch ON, rotate driving wheel slowly	Pulse generation (See page 05-578)
STA (E7-17) - E1 (E7-1)	B - BR	Starter signal	Cranking	6 V or higher
STP (E6-19) - E1 (E7-1)	BR - BR	Stop lamp switch	Ignition switch ON, brake pedal is depressed	7.5 to 14 V
STP (E6-19) - E1 (E7-1)	BR - BR	Stop lamp switch	Ignition switch ON, brake pedal is released	Below 1.5 V
ST1- (E6-12) - E1 (E7-1)	V - BR	Stop lamp switch (opposite to stop)	Ignition switch ON, brake pedal is depressed	Below 1.5 V
ST1- (E6-12) - E1 (E7-1)	V - BR	Stop lamp switch (opposite to stop)	Ignition switch ON, brake pedal is released	7.5 to 14 V
NSW (E7-16) - E1 (E7-1)	B-R - BR	PNP switch	Ignition switch ON, shift lever position in P or N	Below 3.0 V
NSW (E7-16) - E1 (E7-1)	B-R - BR	PNP switch	Ignition switch ON, except shift lever position in P or N	9 to 14 V
M+ (E9-3) - ME01 (E9-4) M- (E9-2) - ME01 (E9-4)	B - W-B W - W-B	Throttle motor	Idling	Pulse generation
FC (E5-10) - E1 (E7-1)	Y - BR	Fuel pump control	Ignition switch ON	9 to 14 V
FC (E5-10) - E1 (E7-1)	Y - BR	Fuel pump control	Idling	0 to 3 V
W (E5-11) - E1 (E7-1)	SB - BR	MIL	Ignition switch ON	Below 3.0 V
W (E5-11) - E1 (E7-1)	SB - BR	MIL	Idling	9 to 14 V
ELS2 (E5-12) - E1 (E7-1)	G - BR	Electric load	Power outlet OFF	0 to 1.5 V
ELS2 (E5-12) - E1 (E7-1)	G - BR	Electric load	Power outlet ON	7.5 to 14 V
TC (E5-20) - E1 (E7-1)	O - BR	Terminal TC of DLC 3	Ignition switch ON	9 to 14 V
SIL (E5-18) - E1 (E7-1)	R - BR	Terminal SIL of DLC3	During transmission	Pulse generation
TACH (E5-5) - E1 (E7-1)	B - BR	Engine speed	Idling	Pulse generation
ACIS (E7-15) - E1 (E7-1)	R-Y - BR	VSV for ACIS	Ignition switch ON	9 to 14 V
ACM (E9-6) - E1 (E7-1)	Y-G - BR	VSV for ACM	Ignition switch ON	9 to 14 V
ENG+ (E5-24) - ENG- (E5-30)	V - R	Electric load (from skid control ECU)	Idling	Pulse generation
TRC+ (E5-25) - TRC- (E5-31)	Y - G	Electric load (from skid control ECU)	Idling	Pulse generation
PSW (E9-10) - E1 (E9-1)	R-W - BR	PS pressure switch	Ignition switch ON	9 to 14 V