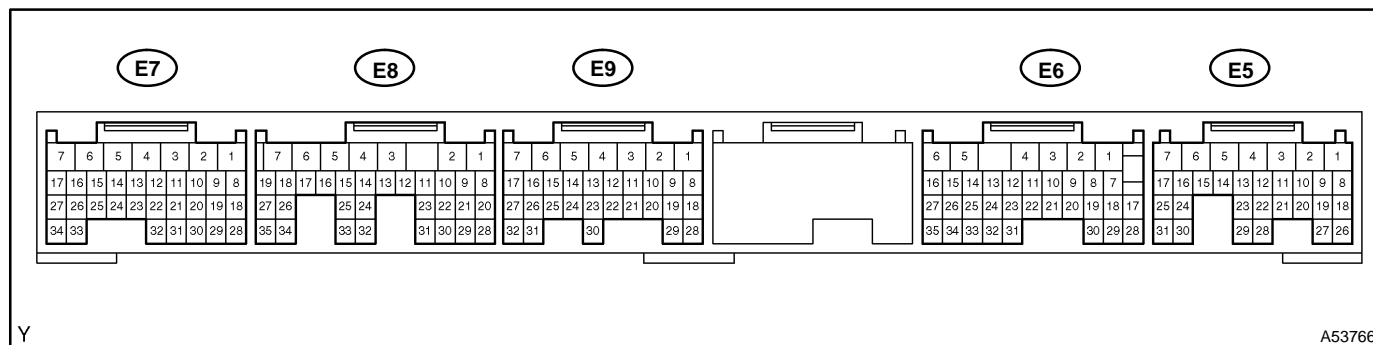


## TERMINALS OF ECM



### HINT:

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 "Specified Condition". Use the illustration above as a reference for the ECM terminals.

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
BATT (E5-3) - E1 (E9-1)	BR - BR	Battery (for measuring battery voltage and for ECM memory)	Always	9 to 14 V
+BM (E6-6) - E1 (E9-1)	W - BR	Power source of throttle motor	Always	9 to 14 V
IGSW (E5-9) - E1 (E9-1)	P - BR	Ignition switch	Ignition switch ON	9 to 14 V
+B (E5-1) - E1 (E9-1)	W - BR	Power source of ECM	Ignition switch ON	9 to 14 V
+B2 (E5-2) - E1 (E9-1)	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 oil control valve (OCV)	Ignition switch ON	Pulse generation (see page 05-55)
MREL (E5-8) - E1 (E9-1)	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) - EVG (E7-29)	R - L-W	Mass air flow meter	Idling, shift lever position P or N position, 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)	B-W - BR	Throttle position sensor (for engine control)	Ignition switch ON, accelerator pedal released	0.3 to 1.0 V
VTA1 (E7-21) - E2 (E7-28)	B-W - BR	Throttle position sensor (for engine control)	Ignition switch ON, accelerator pedal depressed	3.2 to 4.9 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
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

## DIAGNOSTICS - SFI SYSTEM (2AZ-FE)

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
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
HA1A (E8-5) - E04 (E8-7)	B-W - W-B	A/F sensor heater	Idling	Below 3.0 V
HA1A (E8-5) - E04 (E8-7)	B-W - W-B	A/F sensor heater	Ignition switch ON	9 to 14 V
A1A+ (E8-23) - E1 (E9-1)	BR - BR	A/F sensor	Ignition switch ON	3.0 to 3.6 V
A1A- (E8-31) - E1 (E9-1)	Y - BR	A/F sensor	Ignition switch ON	2.7 to 3.3 V
HT1B (E8-21) - E1 (E9-1)	R-Y - BR	Heated oxygen sensor heater	Idling	Below 3.0 V
HT1B (E8-21) - E1 (E9-1)	R-Y - BR	Heated oxygen sensor heater	Ignition switch ON	9 to 14 V
OX1B (E8-29) - O1B (E8-2)	G - BR	Heated oxygen sensor	Maintain engine speed at 2,500 rpm for 2 minutes after warming up	Pulse generation
#1 (E7-1) - E01 (E7-7) #2 (E7-2) - E01 (E7-7) #3 (E7-3) - E01 (E7-7) #4 (E7-4) - E01 (E7-7)	L - W-B Y - W-B B - W-B W - W-B	Injector	Ignition switch ON	9 to 14 V
#1 (E7-1) - E01 (E7-7) #2 (E7-2) - E01 (E7-7) #3 (E7-3) - E01 (E7-7) #4 (E7-4) - E01 (E7-7)	L - W-B Y - W-B B - W-B W - W-B	Injector	Idling	Pulse generation (see page 05-146)
KNK1 (E8-1) - FKNK1 (E8-28)	B - W	Knock sensor	Maintain engine speed at 4,000 rpm after warming up	Pulse generation (see page 05-161)
G2+ (E9-27) - NE- (E9-24)	Y - G	Camshaft position sensor	Idling	Pulse generation (see page 05-166)
NE+ (E9-25) - NE- (E9-24)	R - G	Crankshaft position sensor	Idling	Pulse generation (see page 05-166)
IGT1 (E7-8) - E1 (E9-1) IGT2 (E7-9) - E1 (E9-1) IGT3 (E7-10) - E1 (E9-1) IGT4 (E7-11) - E1 (E9-1)	R-W - BR P - BR Y-B - BR L-Y - BR	Ignition coil with igniter (ignition signal)	Idling	Pulse generation (see page 05-174)
IGF1 (E7-24) - E1 (E9-1)	W-R - BR	Ignition coil with igniter (ignition confirmation signal)	Ignition switch ON	4.5 to 5.5 V
IGF1 (E7-24) - E1 (E9-1)	W-R - BR	Ignition coil with igniter (ignition confirmation signal)	Idling	Pulse generation (see page 05-174)
PRG (E7-34) - E1 (E9-1)	G - BR	Purge valve	Ignition switch ON	9 to 14 V
VPMP (E7-27) - E1 (E9-1)	Y-G - BR	Vent valve (Build in pump module)	Ignition switch ON	9 to 14 V
MPMP (E5-4) - E1 (E9-1)	LG - BR	Vacuum pump (Build in pump module)	Vacuum pump OFF	0 to 3 V
MPMP (E5-4) - E1 (E9-1)	LG - BR	Vacuum pump (Build in pump module)	Vacuum pump ON	9 to 14 V
PPMP (E5-21) - E2 (E7-28)	L - BR	Pressure sensor (Build in pump module)	Ignition switch ON	3 to 3.6 V
SPD (E6-17) - E1 (E9-1)	Y - BR	Speed signal from combination meter	Ignition switch ON, rotate driving wheel slowly	Pulse generation (see page 05-216)

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
STA (E7-17) - E1 (E9-1)	B - BR	Starter signal	Shift lever position P or N, ignition switch START	9 to 14 V
STP (E6-19) - E1 (E9-1)	BR - BR	Stop lamp switch	Brake pedal is depressed	7.5 to 14 V
STP (E6-19) - E1 (E9-1)	BR - BR	Stop lamp switch	Brake pedal is released	Below 1.5 V
ST1 (E6-12) - E1 (E9-1)	V - BR	Stop lamp switch	Ignition switch ON, Brake pedal is depressed	Below 1.5 V
ST1 (E6-12) - E1 (E9-1)	V - BR	Stop lamp switch	Ignition switch ON, Brake pedal is released	7.5 to 14 V
NSW (E7-16) - E1 (E9-1)	B-R - BR	PNP switch	Ignition switch ON, shift position at P or N	0 to 3.0 V
NSW (E7-16) - E1 (E9-1)	B-R - BR	PNP switch	Ignition switch ON, shift position is not P or N	9 to 14 V
M+ (E9-3) - ME01 (E9-4)	B - W-B	Throttle actuator	Idling	Pulse generation
M- (E9-2) - ME01 (E9-4)	W - W-B	Throttle actuator	Idling	Pulse generation
FC (E5-10) - E1 (E9-1)	Y - BR	Fuel pump control	Ignition switch ON	9 to 14 V
W (E5-11) - E1 (E9-1)	SB - BR	MIL	Ignition switch ON	Below 3.0 V
W (E5-11) - E1 (E9-1)	SB - BR	MIL	Idling	9 to 14 V
ELS2 (E5-12) - E1 (E9-1)	G - BR	Electric load	Power outlet OFF	0 to 1.5 V
ELS2 (E5-12) - E1 (E9-1)	G - BR	Electric load	Power outlet ON	7.5 to 14 V
TC (E5-20) - E1 (E9-1)	O - BR	Terminal TC of DLC3	Ignition switch ON	9 to 14 V
SIL (E5-18) - E1 (E9-1)	R - BR	Terminal SIL of DLC3	During charge of gears	Pulse generation
TACH (E5-5) - E1 (E9-1)	B - BR	Engine speed	Idling	Pulse generation
PSW (E9-10) - E1 (E9-1)	R-L - BR	PS oil pressure switch	Ignition switch ON	9 to 14 V