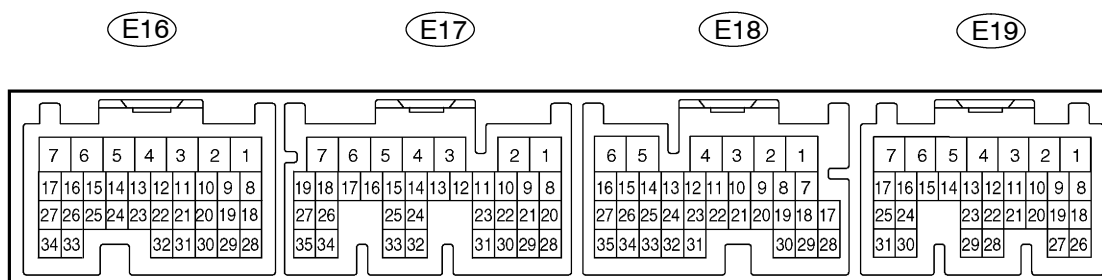


## TERMINALS OF ECU



Y

A23807

### HINT:

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

In the table, first follow the information under "Condition". Look under "Symbols (Terminal No.)" for the terminals to be inspected. The standard voltage between the terminals is shown under "STD Voltage".

Use the illustration above as a reference for the engine ECU terminals.

| Symbols (Terminals No.)        | Wiring Color | Condition                                                  | STD Voltage                          |
|--------------------------------|--------------|------------------------------------------------------------|--------------------------------------|
| BATT (E19-6) – E1 (E16-1)      | B-R – BR     | Always                                                     | 9 to 14 V                            |
| +B (E19-1) – E1 (E16-1)        | B-Y – BR     | Ignition switch ON                                         | 9 to 14 V                            |
| VC (E16-18) – E2 (E16-28)      | L-R – BR     | Ignition switch ON                                         | 4.5 to 5.5 V                         |
| VCC (E18-33) – E2C (E18-34)    | L-R – BR-W   | Ignition switch ON                                         | 4.5 to 5.5 V                         |
| VA (E18-27) – E2C (E18-34)     | R-Y – BR-W   | Accelerator pedal fully closed                             | 0.3 to 0.8 V                         |
|                                |              | Accelerator pedal fully opened                             | 2.9 to 4.9 V                         |
| VAS (E18-35) – E2C (E18-34)    | P-L – BR-W   | Accelerator pedal fully closed                             | 0.3 to 0.8 V                         |
|                                |              | Accelerator pedal fully opened                             | 2.9 to 4.9 V                         |
| IDL (E19-15) – E1 (E16-1)      | LG-B – BR    | Accelerator pedal fully closed                             | 9 to 14 V                            |
|                                |              | Accelerator pedal fully opened                             | 0 to 3 V                             |
| PIM (E17-25) – E2 (E16-28)     | P-L – BR     | Apply vacuum 40 kPa (300 mmHg, 11.8 in.Hg)                 | 1.0 to 1.8 V                         |
|                                |              | Apply vacuum 135 kPa (1,000 mmHg, 39.4 in.Hg)              | 2.3 to 3.2 V                         |
| THOP (E17-5) – E1 (E16-1)      | GR – BR      | Engine warmed up, idling                                   | 9 to 14 V                            |
|                                |              | After ignition switch ON, once within 5 sec.               | 0 to 3 V                             |
| THAF*1 (E16-31) – E2 (E16-28)  | Y-B – BR     | Ignition switch ON                                         | 0.2 to 3.8 V                         |
| THA (E16-20) – E2 (E16-28)     | W-G – BR     | Idling, air intake temp. 0°C (32°F) to 80°C (176°F)        | 0.5 to 3.4 V                         |
| THW (E16-19) – E2 (E16-28)     | G-B – BR     | Idling, engine coolant temp. 60°C (140°F) to 120°C (248°F) | 0.2 to 1.0 V                         |
| THF (E16-29) – E2 (E16-28)     | G-R – BR     | Ignition switch ON (at engine cold)                        | 0.5 to 3.4 V                         |
| VG*1 (E17-24) – EVG*1 (E17-32) | L-Y – G-W    | Idling, A/C switch OFF                                     | 0.2 to 4.9 V                         |
| STA (E17-9) – E1 (E16-1)       | B-R – BR     | Cranking                                                   | 6.0 V or more                        |
| TDC+ (E16-11) – TDC- (E16-10)  | B – W        | Idling                                                     | Pulse generation<br>(See page DI-59) |
| NE+ (E16-27) – NE- (E16-34)    | L – G        | Idling                                                     | Pulse generation<br>(See page DI-56) |

## DIAGNOSTICS – ENGINE

|                             |           |                                                                                                        |                                       |
|-----------------------------|-----------|--------------------------------------------------------------------------------------------------------|---------------------------------------|
| SP1 (E18-30) – E1 (E16-1)   | V – BR    | Ignition switch ON<br>Rotate driving wheel slowly                                                      | Pulse generation                      |
| VNT*1 (E17-4) – E01 (E16-7) | B – W-B   | Ignition switch ON                                                                                     | 9 to 14 V                             |
|                             |           | Idling                                                                                                 | Pulse generation<br>(See page DI-96)  |
| TCV (E16-5) – E01 (E16-7)   | R-Y – W-B | Ignition switch ON                                                                                     | 9 to 14 V                             |
|                             |           | Idling                                                                                                 | Pulse generation<br>(See page DI-67)  |
| SPVD (E17-7) – E1 (E16-1)   | L-Y – BR  | Idling                                                                                                 | Pulse generation<br>(See page DI-82)  |
| SPVF (E17-6) – E1 (E16-1)   | L-R – BR  | Idling                                                                                                 | Pulse generation<br>(See page DI-82)  |
| EGR (E16 – 4) – E01 (E16-7) | R-G – W-B | Ignition switch ON                                                                                     | 9 to 14 V                             |
|                             |           | Engine warmed up, idling                                                                               | Pulse generation<br>(See page DI-128) |
| PA (E16-2) – E01 (E16-7)    | W-R – W-B | VSV for atmospheric pressure leaning OFF                                                               | 9 to 14 V                             |
|                             |           | VSV for atmospheric pressure leaning ON                                                                | 0 to 3 V                              |
| MREL (E19-8) – E01 (E16-7)  | B-W – W-B | Ignition switch ON                                                                                     | 9 to 14 V                             |
| IGSW (E19-9) – E1 (E16-1)   | B-R – BR  | Ignition switch ON                                                                                     | 9 to 14 V                             |
| AC1 (E18-15) – E1 (E16-1)   | W-G – BR  | A/C switch ON (at idling)                                                                              | 0 to 1.5 V                            |
|                             |           | A/C switch OFF                                                                                         | 9 to 14 V                             |
| ACT (E18-4) – E1 (E16-1)    | L-B – BR  | Ignition switch ON                                                                                     | 9 to 14 V                             |
|                             |           | At A/C cut controlled<br>(Driving below 30 km/h (18.6 mph), accelerator pedal fully opened for 5 sec.) | 0 to 3 V                              |
| PDL (E18-16) – E1 (E16-1)   | GR – BR   | Accelerator pedal fully closed                                                                         | 9 to 14 V                             |
|                             |           | Accelerator pedal fully opened                                                                         | 0 to 3 V                              |
| TAC (E19-5) – E1 (E16-1)    | B – BR    | Idling                                                                                                 | Pulse generation                      |
| TC (E19-11) – E1 (E16-1)    | P-B – BR  | Ignition switch ON                                                                                     | 9 to 14 V                             |
| W (E19-12) – E1 (E16-1)     | W – BR    | Check engine warning light lights up                                                                   | 0 to 3 V                              |
|                             |           | Warning light other than check engine warning light lights up                                          | 9 to 14 V                             |
| DATA (E16-26) – E1 (E16-1)  | LG – BR   | For 0.5 sec. after ignition switch ON                                                                  | Pulse generation<br>(See page DI-117) |
| CLK (E16-33) – E1 (E16-1)   | L – BR    | For 0.5 sec. after ignition switch ON                                                                  | Pulse generation<br>(See page DI-117) |
| THWO (E18-14) – E1 (E16-1)  | Y-B – BR  | Ignition switch ON                                                                                     | Pulse generation<br>(See page DI-141) |
| LU+A (E16-15) – E1 (E16-1)  | G-R – BR  | Ignition switch ON                                                                                     | Pulse generation<br>(See page DI-91)  |
| LU-A (E16-14) – E1 (E16-1)  | G-W – BR  | Ignition switch ON                                                                                     | Pulse generation<br>(See page DI-91)  |
| LU+B (E16-13) – E1 (E16-1)  | V – BR    | Ignition switch ON                                                                                     | Pulse generation<br>(See page DI-91)  |
| LU-B (E16-12) – E1 (E16-1)  | G – BR    | Ignition switch ON                                                                                     | Pulse generation<br>(See page DI-91)  |
| EGRC (E16-21) – E1 (E16-1)  | R – BR    | Ignition switch ON                                                                                     | 0 to 3 V                              |
|                             |           | Maintain engine speed at 1,500 rpm after warming up                                                    | 9 to 14 V                             |
| VCH*2 (E18-3) – E1 (E16-1)  | Y-R – BR  | Heater blower switch ON                                                                                | 9 to 14 V                             |
|                             |           | Heater blower switch OFF                                                                               | 0 to 3 V                              |

|                             |          |                                                                        |                  |
|-----------------------------|----------|------------------------------------------------------------------------|------------------|
| SVR (E16-23) – E1 (E16-1)   | L-W – BR | Ignition switch ON                                                     | 9 to 14 V        |
| SCV*1 (E16-9) – E1 (E16-1)  | Y – BR   | Ignition switch ON                                                     | 9 to 14 V        |
| NSW (E17-8) – E1 (E16-1)    | B-W – BR | Ignition switch ON, shift lever P or N position                        | 0 to 3 V         |
|                             |          | Ignition switch ON, shift lever not in P or N position                 | 9 to 14 V        |
| IREL (E18-1) – E1 (E16-1)   | G-Y – BR | Ignition switch ON (engine coolant temperature is 10°C (50°F) or more) | 9 to 14 V        |
|                             |          | Intake heater ON                                                       | 0 to 3 V         |
| STP (E18-19) – E1 (E16-1)   | G-W – BR | Ignition switch ON, brake pedal depressed                              | 7.5 to 14 V      |
|                             |          | Ignition switch ON, brake pedal released                               | 0 to 1.5 V       |
| ST1- (E18-12) – E1 (E16-1)  | R-G – BR | Ignition switch ON, brake pedal released                               | 7.5 to 14 V      |
|                             |          | Ignition switch ON, brake pedal depressed                              | 0 to 1.5 V       |
| VCT (E19-4) – E1 (E16-1)    | L-B – BR | Heater blower switch ON                                                | 0 to 3 V         |
|                             |          | Heater blower switch OFF                                               | 9 to 14 V        |
| HSW*2 (E18-32) – E1 (E16-1) | B-L – BR | Push on power heater switch                                            | 0 to 3 V         |
|                             |          | Push off power heater switch                                           | 9 to 14 V        |
| FSW (E19-28) – E1 (E16-1)   | R-L – BR | With shift lever in first position                                     | 9 to 14 V        |
|                             |          | With shift lever not in first position                                 | 0 to 3 V         |
| PS (E17-10) – E1 (E16-1)    | P – BR   | Idling, turn steering wheel                                            | 0 to 3 V         |
|                             |          | Ignition switch ON                                                     | 9 to 14 V        |
| SIL (E19-18) – E1 (E16-1)   | V-W – BR | Connect intelligent tester II to DLC3                                  | Pulse generation |
| IMI (E19-23) – E1 (E16-1)   | L-B – BR | Idling                                                                 | Pulse generation |
| IMO (E19-29) – E1 (E16-1)   | L-R – BR | A few sec. after engine starting                                       | Pulse generation |

HINT:

\*1: Only for Europe

\*2: M/T