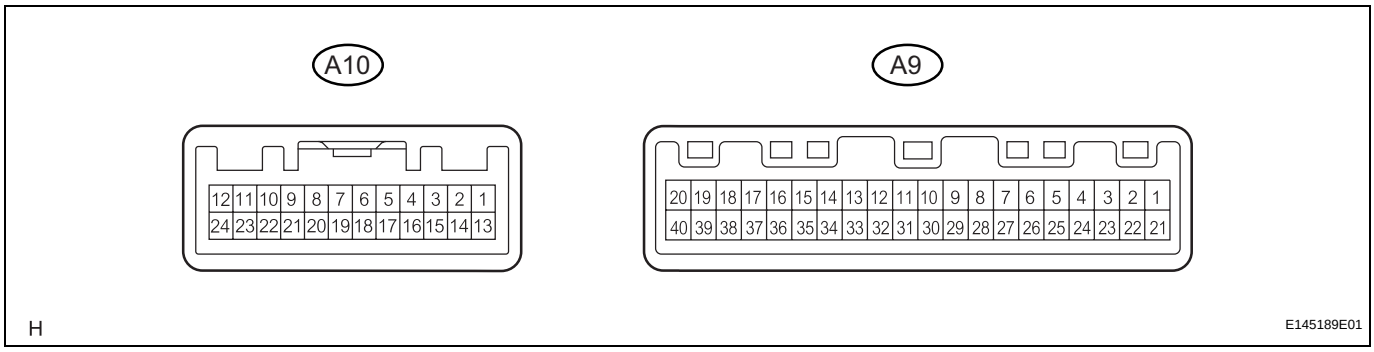
TERMINALS OF ECU

1. A/C AMPLIFIER



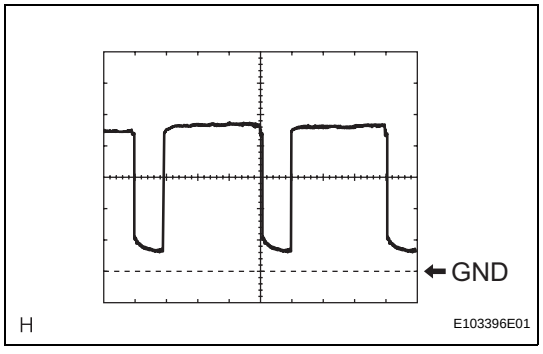
Terminal No. (Symbols)	Wiring Color	Terminal Description	Condition	Specified Condition
A9-1 (GND) - Body ground	W-B - Body ground	Ground	Always	Below 1 V
A9-2 (MPX+) - A9-1 (GND)	V - W-B	Multiplex communication signal	IG SW: ON	Pulse generation
A9-3 (MPX-) - A9-1 (GND)	R-L - W-B	Multiplex communication signal	IG SW: ON	Pulse generation
A9-4 (SOL+) - A9-1 (GND)	L - W-B	A/C compressor operation signal	Engine is running A/C switch: ON Blower switch: LO	Pulse generation (See waveform 2)
A9-5 (MGC) - A9-1 (GND)	R-L - W-B	A/C compressor magnetic clutch operation signal	IG SW: ON Blower switch: LO A/C switch: OFF → ON	10 to 14 V → Below 1 V
A9-6 (BLW) - A9-1 (GND)	Y-P - W-B	Blower motor speed control signal	IG SW: ON Front blower: Operate	Pulse generation (See waveform 1)
A9-8 (HRH) - A9-1 (GND)	R-G - W-B	Rear A/C relay operation signal	IG SW: ON Rear blower: OFF → ON	10 to 14 V → Below 1 V
A9-9 (LOCK) - A9-1 (GND)	W-L - W-B	A/C compressor lock sensor signal	Engine is running Blower switch: LO A/C switch: ON	Pulse generation (See waveform 3)
A9-10 (S5-5) - A9-24 (SG-6)	P - W-G	Power supply for A/C pressure sensor	IG SW: OFF → ON A/C switch: ON	Below 1 V → 4.5 to 5.5 V
A9-11 (TSP) - Body ground	Y-B - Body ground	A/C solar sensor signal (Passenger side)	IG SW: ON Solar sensor subject to electric light	0.8 to 4.3 V
A9-12 (AMDH) - A9-1 (GND)	L-Y - W-B	Air mix control servo motor signal (Driver side)	IG SW: ON Driver side set temp.: MAX. COOL → MAX. HOT	Below 1 V → 10 to 14 V
A9-13 (AMDC) - A9-1 (GND)	L - W-B	Air mix control servo motor signal (Driver side)	IG SW: ON Driver side set temp.: MAX. HOT → MAX. COOL	Below 1 V → 10 to 14 V
A9-14 (AMPH) - A9-1 (GND)	L-B - W-B	Air mix control servo motor signal (Front passenger side)	IG SW: ON Passenger side set temp.: MAX. COOL → MAX. HOT	Below 1 V → 10 to 14 V
A9-15 (AMPC) - A9-1 (GND)	L-W - W-B	Air mix control servo motor signal (Front passenger side)	IG SW: ON Passenger side set temp.: MAX. HOT → MAX. COOL	Below 1 V → 10 to 14 V
A9-16 (AIF) - A9-1 (GND)	BR-W - W-B	Air inlet control servo motor signal	IG SW: ON R/F SW: RECIRCULATION → FRESH	Below 1 V → 10 to 14 V
A9-17 (AIR) - A9-1 (GND)	R - W-B	Air inlet control servo motor signal	IG SW: ON R/F SW: FRESH → RECIRCULATION	Below 1 V → 10 to 14 V
A9-18 (IG) - A9-1 (GND)	R-Y - W-B	Power source (IG)	IG SW: LOCK → ON	Below 1 V → 10 to 14 V
A9-19 (ACC) - A9-1 (GND)	P - W-B	Accessory (ON)	IG SW: ACC	10 to 14 V
A9-20 (B) - A9-1 (GND)	W-L - W-B	Power source (Back-up)	Always	10 to 14 V

AC

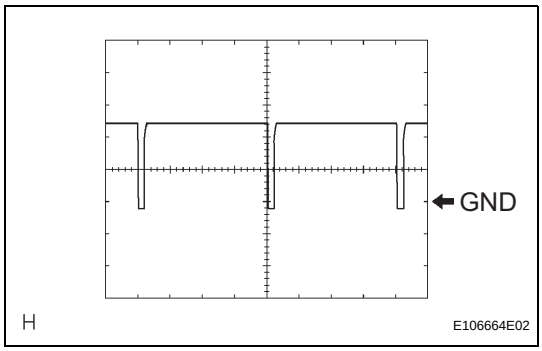
Terminal No. (Symbols)	Wiring Color	Terminal Description	Condition	Specified Condition
A9-21 (SG-1) - A9-1 (GND)	GR-L - W-B	Signal ground	Always	Below 1 V
A9-22 (SG-4) - A9-1 (GND)	Y - W-B	Signal ground	Always	Below 1 V
A9-23 (SG-5) - A9-1 (GND)	W-R - W-B	Signal ground	Always	Below 1 V
A9-24 (SG-6) - A9-1 (GND)	W-G - W-B	Signal ground	Always	Below 1 V
A9-26 (TPD) - A9-21 (SG-1)	GR-B - GR-L	Air mix control servo motor position signal (for driver side)	IG SW: ON Driver side set temp. MAX. HOT → MAX. COOL	1.0 → 4.0 V
A9-27 (TPP) - A9-21 (SG-1)	L-R - GR-L	Air mix control servo motor position signal (for front passenger side)	IG SW: ON Passenger side set temp. MAX. HOT → MAX. COOL	1.0 → 4.0 V
A9-28 (TPI) - A9-21 (SG-1)	GR - GR-L	Air inlet control servo motor position signal	IG SW: ON Front R/F switch FRESH → RECIRCULATION	1.0 → 4.0 V
A9-29 (TPO) - A9-21 (SG-1)	LG - GR-L	Air outlet control servo motor position signal	IG SW: ON Front mode switch: FOOT → DEF.	1.0 → 4.0 V
A9-30 (S5-1) - A9-21 (SG-1)	P-L - GR-L	Power source for servo motor position sensors	IG SW: LOCK → ON	Below 1 V → 5.0 V
A9-31 (TSD) - Body ground	Y-R - Body ground	A/C solar sensor signal (Driver side)	IG SW: ON Solar sensor subject to electric light	0.8 to 4.3 V
A9-32 (TAM) - A9-1 (GND)	B-R - W-B	A/C ambient temperature sensor signal	Ignition switch ON at 25°C (77°F)	1.35 to 1.75 V
A9-33 (TR) - A9-23 (SG-5)	G-W - W-R	A/C room temperature sensor signal	IG SW: ON Front cabin temp.: 25°C (77°F) → 40°C (104°F)	1.8 to 2.2 V → 1.2 to 1.6 V
A9-34 (TE) - A9-22 (SG-4)	G-B - Y	Front A/C evaporator temperature sensor signal	Front evaporator temp.: 0°C (32°F) → 15°C (59°F)	2.0 to 2.4 V → 1.4 to 1.8 V
A9-35 (PRE) - A9-24 (SG-6)	V - W-G	A/C pressure sensor signal	Start engine, Operate A/C system, Refrigerant pressure: Abnormal pressure (more than 3140 kPa (32.0 kgf/cm^2, 455 psi))	4.74 V or higher
A9-35 (PRE) - A9-24 (SG-6)	V - W-G	A/C pressure sensor signal	Start engine, Operate A/C system, Refrigerant pressure: Abnormal pressure (less than 196 kPa (2.0 kgf/cm^2, 28 psi))	Below 0.76 V
A9-35 (PRE) - A9-24 (SG-6)	V - W-G	A/C pressure sensor signal	Start engine, Operate A/C system, Refrigerant pressure: Abnormal pressure (more than 3140 kPa (32.0 kgf/cm^2, 455 psi) and less than 196 kPa (2.0 kgf/cm^2, 28 psi))	0.76 to 4.74 V
A9-37 (ILL-) - A9-1 (GND)	W-R - W-B	Illumination signal (Rheostat)	Illumination light Max. Position	Below 1 V
A9-38 (ILL+) - A9-1 (GND)	G - W-B	Illumination signal	Light control switch TAIL or HEAD	10 to 14 V
A9-39 (AOD) - A9-1 (GND)	G-O - W-B	Air outlet control servo motor drive signal	IG SW: ON Front mode switch: FOOT → DEF.	Below 1 V → 10 to 14 V
A9-40 (AOF) - A9-1 (GND)	O - W-B	Air outlet control servo motor drive signal	IG SW: ON Front mode switch: DEF. → FOOT	Below 1 V → 10 to 14 V
A10-1 (FOOT) - A9-1 (GND)	G-Y - W-B	Rear air outlet control servo motor signal	IG SW: ON Rear mode switch: FACE → FOOT	Below 1 V → 10 to 14 V

Terminal No. (Symbols)	Wiring Color	Terminal Description	Condition	Specified Condition
A10-2 (FACE) - A9-1 (GND)	LG-B - W-B	Rear air outlet control servo motor signal	IG SW: ON Rear mode switch: FOOT → FACE	Below 1 V → 10 to 14 V
A10-3 (MHH) - A9-1 (GND)	V-Y - W-B	Rear air mix control servo motor signal	IG SW: ON Rear set temp.: MAX. COOL → MAX. HOT	Below 1 V → 10 to 14 V
A10-4 (MCH) - A9-1 (GND)	GR-L - W-B	Rear air mix control servo motor signal	IG SW: ON Rear set temp.: MAX. HOT → MAX. COOL	Below 1 V → 10 to 14 V
A10-5 (BLWH) - A9-1 (GND)	L-W - W-B	Rear blower motor control signal	IG SW: ON Rear A/C blower: Operate	1.7 to 2.0 V
A10-6 (VMH) - A9-1 (GND)	P-B - W-B	Rear blower motor control signal	IG SW: ON Rear A/C blower: Operate	0 to 9 V
A10-7 (SWD) - A9-1 (GND)	B - W-B	Communication signal (for Rear A/C control)	Rear A/C operated	Pulse generation
A10-8 (DPD) - A9-1 (GND)	W - W-B	Communication signal (for Rear A/C control)	Rear A/C operated	Pulse generation
A10-9 (CLKR) - A9-1 (GND)	V-R - W-B	Communication signal (for Rear A/C control)	Rear A/C operated	Pulse generation
A10-10 (STX) - A9-1 (GND)	B-O - W-B	Communication signal (for Rear A/C control)	Rear A/C operated	Pulse generation
A10-11 (BLK) - A9-1 (GND)	R-G - W-B	Communication signal (for Rear A/C control)	Rear A/C operated	Pulse generation
A10-12 (S5) - A10-13 (SG)	P-L - W-R	Power source for rear air outlet control servo motor position sensor	IG SW: LOCK → ON	Below 1 V → 5.0 V
A10-13 (SG) - A9-1 (GND)	W-R - W-B	Signal ground	Always	Below 1 V
A10-14 (SGND) - A9-1 (GND)	BR-R - W-B	Signal ground	Always	Below 1 V
A10-16 (RDSW) - A9-1 (GND)	Y-G - W-B	DEF relay signal	IG SW: ON RDEF SW: OFF → ON	11 to 14 V → Below 1 V
A10-17 (TEC) - A10-13 (SG)	P-G - W-R	Rear evaporator temperature sensor signal	Rear evaporator temp.: 0°C (32°F) → 15°C (59°F)	2.0 to 2.4 V → 1.4 to 1.8 V
A10-18 (TR) - A10-14 (SGND)	G-R - BR-R	Rear room temperature sensor signal	IG SW: ON Rear cabin temp.: 25°C (77°F) → 15°C (59°F)	1.8 to 2.2 V → 1.2 to 1.6 V
A10-20 (TPM) - A10-13 (SG)	G - W-R	Rear air outlet control servo motor position signal	IG SW: ON Rear mode switch: FOOT → FACE	1.0 → 4.0 V
A10-21 (TPH) - A10-13 (SG)	B - W-R	Rear air mix control servo motor position signal	IG SW: ON Rear set temp. MAX. HOT → MAX. COOL	1.0 → 4.0 V

(a) Waveform 1:

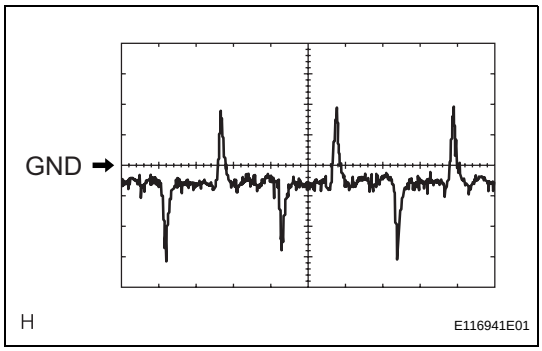


Item	Contents
Terminal No. (Symbols)	A9-6 (BLW) - A9-1 (GND)
Tool Setting	1 V/DIV., 500 μs/DIV.
Vehicle Condition	IG SW: ON Blower switch: ON



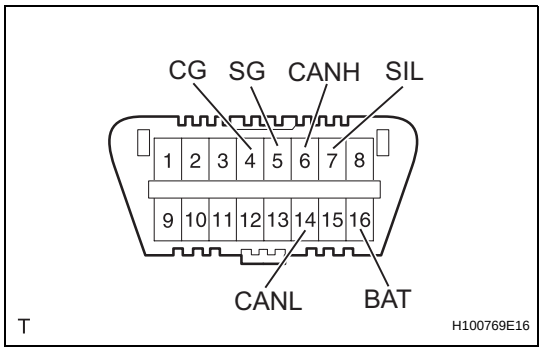
(b) Waveform 2:

Item	Contents
Terminal No. (Symbols)	A9-4 (SOL+) - A9-1 (GND)
Tool Setting	5 V/DIV., 500 μs/DIV.
Vehicle Condition	Engine is running A/C switch: ON



(c) Waveform 3:

Item	Contents
Terminal No. (Symbols)	A9-9 (LOCK) - A9-1 (GND)
Tool Setting	200 mV/DIV., 100 ms./DIV.
Vehicle Condition	Engine is running Blower switch: LO A/C switch: ON



DIAGNOSIS SYSTEM

1. CHECK DLC3

(a) The vehicle's ECM uses the ISO 15765-4 for communication. The terminal arrangement of the DLC3 complies with SAE J1962 and matches the ISO 15765-4 format.

HINT:

Connect the cable of the intelligent tester to the DLC3, turn the ignition switch to the ON position and attempt to use the tester. If the display indicates that a communication error has occurred, there is a problem either with the vehicle or with the tester.

If communication is normal when the tester is connected to another vehicle, inspect the DLC3 of the original vehicle.

If communication is still not possible when the tester is connected to another vehicle, the problem may be in the tester itself. Consult the Service Department listed in the tester's instruction manual.

Symbol (Terminal No.)	Terminal Description	Condition	Specified Condition
SIL (7) - SG (5)	Bus "+" line	During transmission	Pulse generation
CG (4) - Body ground	Chassis ground	Always	Below 1 Ω
SG (5) - Body ground	Signal ground	Always	Below 1 Ω
BAT (16) - Body ground	Battery positive	Always	11 to 14 V
CANH (6) - CANL (14)	HIGH-level CAN bus line	Ignition switch OFF*	54 to 69 Ω
CANH (6) - Battery positive	HIGH-level CAN bus line	Ignition switch OFF*	1 MΩ or higher
CANH (6) - CG (4)	HIGH-level CAN bus line	Ignition switch OFF*	3 MΩ or higher
CANL (14) - Battery positive	LOW-level CAN bus line	Ignition switch OFF*	1 MΩ or higher
CANL (14) - CG (4)	LOW-level CAN bus line	Ignition switch OFF*	3 MΩ or higher

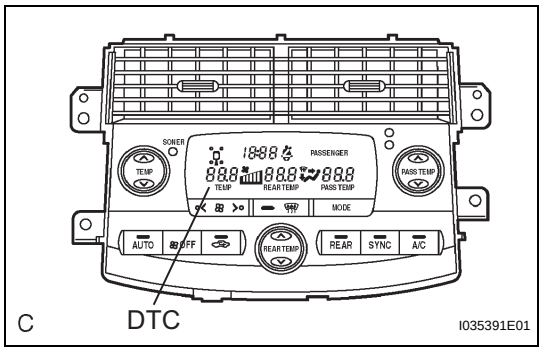
NOTICE:
***: Before measuring the resistance, leave the vehicle as is for at least 1 minute and do not operate the ignition switch, any other switches or the doors.**

DTC CHECK / CLEAR

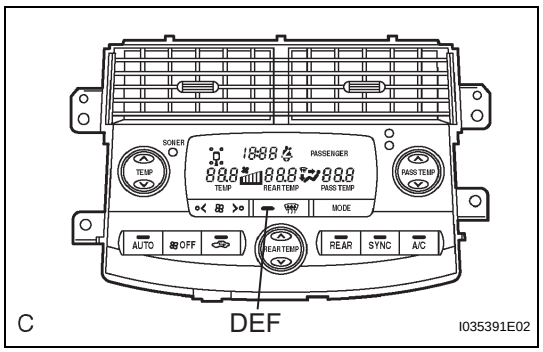
1. DTC CHECK (SENSOR CHECK)

(a) After the indicator check is completed, the system enters the DTC check mode automatically.

(b) Read the codes displayed on the panel. Refer to the list of codes (See page AC-19) when reading the codes. (Trouble codes are output at the temperature display.)



(c) If the slower display is desired, press the DEF switch and change it to the step operation. Each time the DEF switch is pressed, the display changes by 1 step.



2. CLEARING DTC

(a) To clear diagnostic trouble codes, there are 2 ways.

(1) During sensor check, press the "DEF" switch and "A/C" switch at the same time.

(2) Remove the ECU-B fuse in the engine room junction block for 20 seconds or longer to clear the DTC memory.

