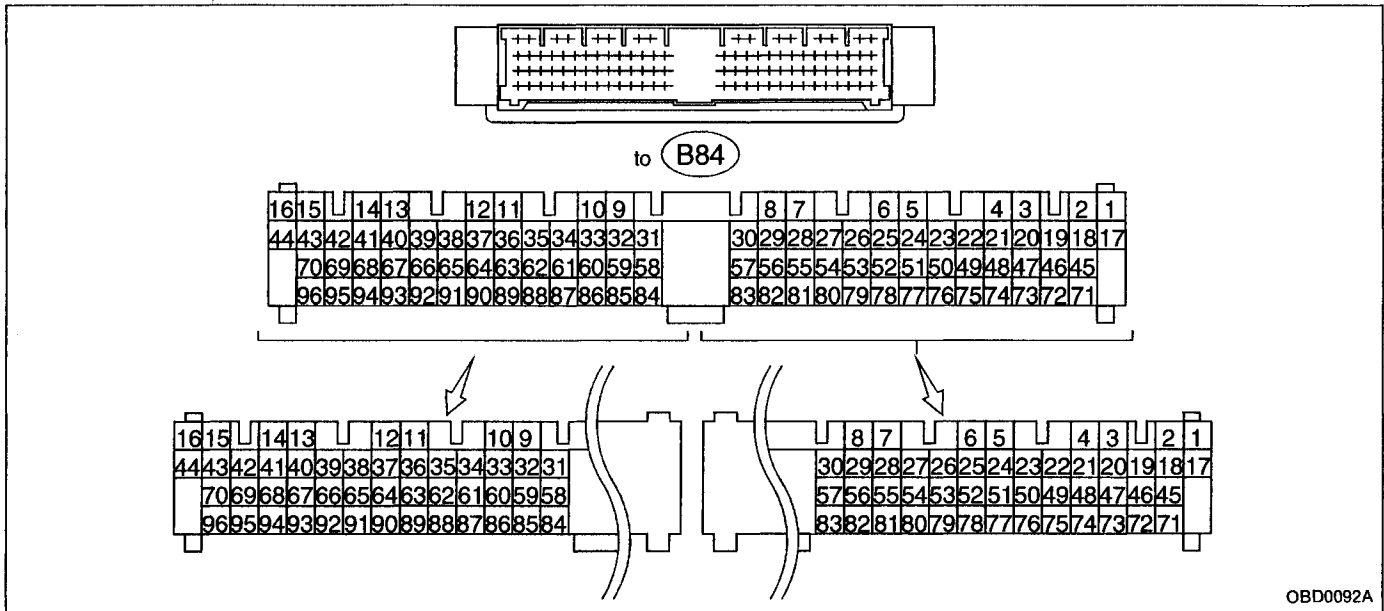


5. Specified Data

1. ENGINE CONTROL MODULE (ECM) I/O SIGNAL



OBD0092A

Content	Connector No.	Terminal No.	Signal (V)		Note	
			Ignition SW ON (Engine OFF)	Engine ON (Idling)		
Crankshaft position sensor	Signal (+)	B84	8	0	-7 — +7	Sensor output waveform
	Signal (-)	B84	29	0	0	—
	Shield	B84	54	0	0	—
Camshaft position sensor	Signal (+)	B84	7	0	-7 — +7	Sensor output waveform
	Signal (-)	B84	28	0	0	—
	Shield	B84	54	0	0	—
Mass air flow sensor	Signal	B84	5	0 — 0.3	0.8 — 1.2	—
	Shield	B84	57	0	0	—
	GND	B84	20	0	0	—
Throttle position sensor	Signal	B84	6	Fully closed: 0.2 — 1.0 Fully opened: 4.2 — 4.7		—
	Power supply	B84	21	5	5	—
	GND	B84	20	0	0	—
Front oxygen sensor	Signal	B84	23	0	0 — 0.9	—
	Shield	B84	56	0	0	—
Rear oxygen sensor	Signal	B84	24	0	0 — 0.9	—
	Shield	B84	56	0	0	—
Engine coolant temperature sensor	B84	22	1.0 — 1.4	1.0 — 1.4	After warm-up	
Vehicle speed sensor 2	B84	83	0 or 5	0 or 5	"5" and "0" are repeatedly displayed when vehicle is driven.	

Content	Connector No.	Terminal No.	Signal (V)		Note	
			Ignition SW ON (Engine OFF)	Engine ON (Idling)		
Starter switch	B84	86	0	0	Cranking: 8 to 14	
A/C switch	B84	60	ON: 10 — 13 OFF: 0	ON: 13 — 14 OFF: 0	—	
Ignition switch	B84	85	10 — 13	13 — 14	—	
Neutral position switch	B84	82	ON: 0 OFF: 5.0 ± 0.5		Switch is ON when shift is in "N" or "P" position.	
Test mode connector	B84	84	5	5	When connected: 0	
Knock sensor	Signal	B84	3	2.8	—	
	Shield	B84	56	0	—	
AT/MT identification	B84	81	5	5	When measuring voltage between ECM and body.	
Back-up power supply	B84	39	10 — 13	13 — 14	Ignition switch "OFF": 10 — 13	
Control unit power supply	B84	1	10 — 13	13 — 14	—	
		2				
Ignition control	# 1, # 2	B84	41	0	1 — 3.4	—
	# 3, # 4	B84	40	0	1 — 3.4	—
Fuel injector	# 1	B84	96	10 — 13	1 — 14	Waveform
	# 2	B84	70	10 — 13	1 — 14	Waveform
	# 3	B84	44	10 — 13	1 — 14	Waveform
	# 4	B84	16	10 — 13	1 — 14	Waveform
Idle air control solenoid valve	OPEN end	B84	14	—	1 — 13	Waveform
	CLOSE end	B84	13	—	13 — 1	Waveform
Fuel pump relay control	B84	32	ON: 0.5, or less OFF: 10 — 13	0.5, or less	—	
A/C relay control	B84	31	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	—	
Radiator fan relay 1 control	B84	74	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	—	
Radiator fan relay 2 control	B84	73	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	With A/C vehicles only	
Self-shutoff control	B84	63	10 — 13	13 — 14	—	
Malfunction indicator lamp	B84	58	—	—	Light "ON": 1, or less Light "OFF": 10 — 14	
Engine speed output	B84	64	—	0 — 13, or more	Waveform	
Torque control signal	B84	79	5	5	—	
Mass air flow signal	B84	47	0 — 0.3	0.8 — 1.2	—	
Purge control solenoid valve	B84	72	ON: 1, or less OFF: 10 — 13	ON: 1, or less OFF: 13 — 14	—	
Atmospheric pressure sensor	B84	26	3.9 — 4.1	2.0 — 2.3	—	
Pressure sources switching solenoid valve	B84	15	ON: 1, or less OFF: 10 — 13	ON: 1, or less OFF: 13 — 14	—	
EGR solenoid valve	B84	71	ON: 1, or less OFF: 10 — 13	ON: 1, or less OFF: 13 — 14	—	
Front oxygen sensor heater signal	B84	38	0 — 1.0	0 — 1.0	—	

Content	Connector No.	Terminal No.	Signal (V)		Note
			Ignition SW ON (Engine OFF)	Engine ON (Idling)	
Rear oxygen sensor heater signal	B84	37	0 — 1.0	0 — 1.0	—
AT diagnosis input signal	B84	80	Less than 1 ↔ More than 4	Less than 1 ↔ More than 4	Waveform
GND (sensors)	B84	20	0	0	—
GND (injectors)	B84	69	0	0	—
		95			
GND (ignition system)	B84	94	0	0	—
GND (power supply)	B84	19	0	0	—
		46			
GND (control systems)	B84	17	0	0	—
		18			
GND (oxygen sensor heater)	B84	42	0	0	—

2. ENGINE CONDITION DATA

Content	Specified data
Mass air flow	1.7 — 3.3 (g/sec): Idling
	7.1 — 14.2 (g/sec): 2,500 rpm racing
Engine load	1.6 — 2.9 (%): Idling
	6.4 — 12.8 (%): 2,500 rpm racing

Measuring condition:

- After warm-up the engine.
- Gear position is in "N" or "P" position.
- A/C is turned OFF.
- All accessory switches are turned OFF.