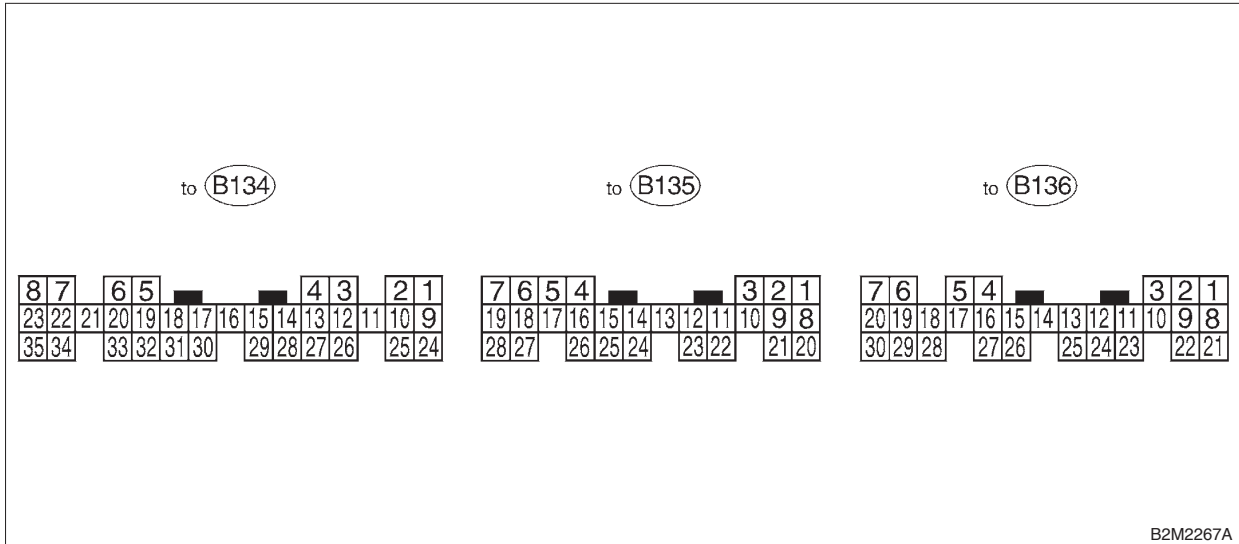


5. Specified Data

A: ENGINE CONTROL MODULE (ECM) I/O SIGNAL FOR 2200 cc CALIFORNIA SPEC. VEHICLES



B2M2267A

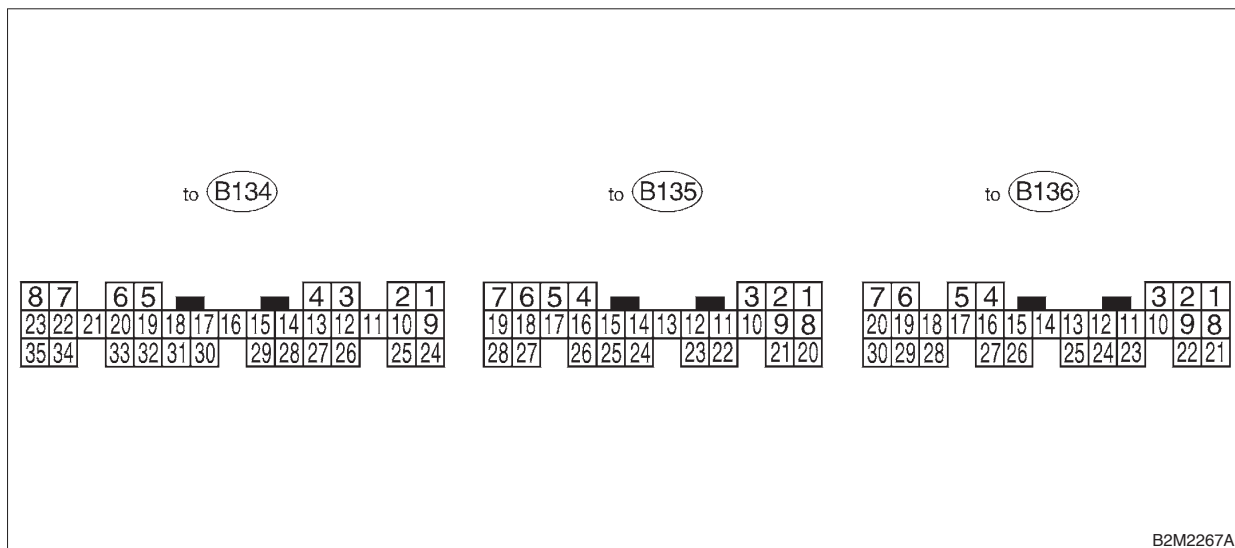
Content		Connector No.	Terminal No.	Signal (V)		Note
				Ignition SW ON (Engine OFF)	Engine ON (Idling)	
Crankshaft position sensor	Signal (+)	B135	1	0	-7 - +7	Sensor output waveform
	Signal (-)	B135	8	0	0	-
	Shield	B135	10	0	0	-
Camshaft position sensor	Signal (+)	B135	2	0	-7 - +7	Sensor output waveform
	Signal (-)	B135	9	0	0	-
	Shield	B135	10	0	0	-
Throttle position sensor	Signal	B136	17	Fully closed: 0.2 - 1.0 Fully opened: 4.2 - 4.7		-
	Power supply	B136	15	5	5	-
	GND (sensor)	B136	16	0	0	-
Rear oxygen sensor	Signal	B136	18	0	0 - 0.9	-
	Shield	B136	24	0	0	-
	GND sensor	B136	16	0	0	-
Front oxygen sensor heater	Signal 1	B134	22	0.5 - 13	0.5 - 14	Waveform
	Signal 2	B134	23	0.5 - 13	0.5 - 14	Waveform
	Power supply monitor	B136	3	10 - 13	13 - 14	-
Rear oxygen sensor heater	Signal	B134	21	0.5 - 13	0.5 - 14	Waveform
	Power supply monitor	B136	3	10 - 13	13 - 14	-

Content		Connector No.	Terminal No.	Signal (V)		Note
				Ignition SW ON (Engine OFF)	Engine ON (Idling)	
Engine coolant temperature sensor	Signal	B136	14	1.0 — 1.4	1.0 — 1.4	After warm-up the engine.
	GND (sensor)	B136	16	0	0	After warm-up the engine.
Vehicle speed signal		B135	24	0 or 5	0 or 5	"5" and "0" are repeatedly displayed when vehicle is driven.
Starter switch		B135	28	0	0	Cranking: 8 — 14
A/C switch		B135	27	ON: 10 — 13 OFF: 0	ON: 13 — 14 OFF: 0	—
Ignition switch		B135	7	10 — 13	13 — 14	—
Neutral position switch (MT)		B135	26	ON: 5.0±0.5 OFF: 0		On MT vehicle; switch is ON when gear is in neutral position.
Neutral position switch (AT)		B135	26	ON: 0 OFF: 5.0±0.5		On AT vehicle; switch is ON when shift is in "N" or "P" position.
Test mode connector		B135	14	5	5	When connected: 0
Knock sensor	Signal	B136	4	2.5	2.5	—
	Shield	B136	25	0	0	—
Back-up power supply		B136	9	10 — 13	13 — 14	Ignition switch "OFF": 10 — 13
Control unit power supply		B136	1	10 — 13	13 — 14	—
		B136	2	10 — 13	13 — 14	—
Sensor power supply		B136	15	5	5	—
Line end check 1		B135	20	0	0	—
Ignition control	#1, #2	B134	25	0	1 — 3.4	Waveform
	#3, #4	B134	26	0	1 — 3.4	Waveform
Fuel injector	#1	B134	4	10 — 13	1 — 14	Waveform
	#2	B134	13	10 — 13	1 — 14	Waveform
	#3	B134	14	10 — 13	1 — 14	Waveform
	#4	B134	15	10 — 13	1 — 14	Waveform
Idle air control solenoid valve	Signal	B134	5	—	1 — 13	Waveform
	Power supply	B136	2	10 — 13	13 — 14	—
	GND (power)	B134	8	0	0	—
Fuel pump relay control		B134	16	ON: 0.5, or less OFF: 10 — 13	0.5, or less	—
A/C relay control		B134	17	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	—
Radiator fan relay 1 control		B134	3	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	—
Radiator fan relay 2 control		B134	2	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	With A/C vehicles only
Self-shutoff control		B135	19	10 — 13	13 — 14	—
Malfunction indicator lamp		B134	11	—	—	Light "ON": 1, or less Light "OFF": 10 — 14
Engine speed output		B134	30	—	0 — 13, or more	Waveform
Torque control 1 signal		B135	16	5	5	—
Torque control 2 signal		B135	17	5	5	—
Torque control cut signal		B134	31	8	8	—

## ON-BOARD DIAGNOSTICS II SYSTEM

Content	Connector No.	Terminal No.	Signal (V)		Note	
			Ignition SW ON (Engine OFF)	Engine ON (Idling)		
Intake manifold pressure signal for AT	B136	11	3.5 — 3.8	1.2 — 1.8	—	
Purge control solenoid valve	B134	2	ON: 1, or less OFF: 10 — 13	ON: 1, or less OFF: 13 — 14	—	
Power steering switch	B135	13	10 — 13	ON: 0 OFF: 13 — 14	Switch is ON when turning steering wheel.	
Intake manifold pressure sensor	Signal	B136	5	3.5 — 3.8	1.2 — 1.8	—
	Power supply	B136	15	5	5	—
	GND (sensor)	B136	16	0	0	—
Fuel temperature sensor	B136	26	2.5 — 3.8	2.5 — 3.8	Ambient temperature: 25°C (75°F)	
Fuel level sensor	B136	27	0.12 — 4.75	0.12 — 4.75	—	
Fuel tank pressure sensor	Signal	B136	12	2.3 — 2.7	2.3 — 2.7	The value obtained after the fuel filler cap was removed once and recapped.
	Power supply	B136	15	5	5	—
	GND (sensor)	B136	16	0	0	—
Fuel tank pressure control solenoid valve	B134	1	ON: 1, or less OFF: 10 — 13	ON: 1, or less OFF: 13 — 14	—	
Drain valve	B134	10	ON: 1, or less OFF: 10 — 13	ON: 1, or less OFF: 13 — 14	—	
AT diagnosis input signal	B135	4	Less than 1 ↔ More than 4	Less than 1 ↔ More than 4	Waveform	
Intake air temperature sensor	B136	13	3.0 — 3.4	3.0 — 3.4	Intake air temperature: 25°C (75°F)	
Line end check 2	B135	21	5	5	—	
GND (sensors)	B136	16	0	0	—	
GND (injectors)	B134	7	0	0	—	
GND (ignition system)	B134	27	0	0	—	
GND (power supply)	B134	8	0	0	—	
GND (control systems)	B136	21	0	0	—	
	B136	22	0	0	—	
GND (oxygen sensor heater 1)	B134	35	0	0	—	
GND (oxygen sensor heater 2)	B134	34	0	0	—	

**B: ENGINE CONTROL MODULE (ECM) I/O SIGNAL FOR EXCEPT 2200 cc CALIFORNIA SPEC. VEHICLES**



B2M2267A

Content	Connector No.	Terminal No.	Signal (V)		Note	
			Ignition SW ON (Engine OFF)	Engine ON (Idling)		
Crankshaft position sensor	Signal (+)	B135	1	0	-7 — +7	Sensor output waveform
	Signal (-)	B135	8	0	0	—
	Shield	B135	10	0	0	—
Camshaft position sensor	Signal (+)	B135	2	0	-7 — +7	Sensor output waveform
	Signal (-)	B135	9	0	0	—
	Shield	B135	10	0	0	—
Mass air flow sensor	Signal	B136	5	0 — 0.3	0.8 — 1.2	—
	Power supply	B136	15	5	5	—
	Shield	B136	25	0	0	—
	GND	B136	8	0	0	—
Throttle position sensor	Signal	B136	17	Fully closed: 0.2 — 1.0 Fully opened: 4.2 — 4.7		—
	Power supply	B136	15	5	5	—
	GND (sensor)	B136	16	0	0	—
Front oxygen sensor	Signal (+)	B136	7	0	0 — 0.9	—
	Signal (-)	B136	20	0	0	—
	Shield	B136	23	0	0	—
Rear oxygen sensor	Signal	B136	18	0	0 — 0.9	—
	Shield	B136	24	0	0	—
	GND (sensor)	B136	16	0	0	—
Front oxygen sensor heater	Signal 1	B134	22	0 — 1.0	0 — 1.0	—
	Signal 2	B134	23	0 — 1.0	0 — 1.0	—
Rear oxygen sensor heater signal		B134	21	0 — 1.0	0 — 1.0	—

## ON-BOARD DIAGNOSTICS II SYSTEM

Content		Connector No.	Terminal No.	Signal (V)		Note
				Ignition SW ON (Engine OFF)	Engine ON (Idling)	
Engine coolant temperature sensor	Signal	B136	14	1.0 — 1.4	1.0 — 1.4	After warm-up the engine.
	GND (sensor)	B136	16	0	0	After warm-up the engine.
Vehicle speed signal		B135	24	0 or 5	0 or 5	"5" and "0" are repeatedly displayed when vehicle is driven.
Starter switch		B135	28	0	0	Cranking: 8 — 14
A/C switch		B135	27	ON: 10 — 13 OFF: 0	ON: 13 — 14 OFF: 0	—
Ignition switch		B135	7	10 — 13	13 — 14	—
Neutral position switch (MT)		B135	26	ON: 5.0±0.5 OFF: 0		On MT vehicle; switch is ON when gear is in neutral position.
Neutral position switch (AT)		B135	26	ON: 0 OFF: 5.0±0.5		On AT vehicle; switch is ON when shift is in "N" or "P" position.
Test mode connector		B135	14	5	5	When connected: 0
Knock sensor	Signal	B136	4	2.8	2.8	—
	Shield	B136	25	0	0	—
AT/MT identification		B135	25	AT: 5 MT: 0	AT: 5 MT: 0	When measuring voltage between ECM and chassis ground.
Back-up power supply		B136	9	10 — 13	13 — 14	Ignition switch "OFF": 10 — 13
Control unit power supply		B136	1	10 — 13	13 — 14	—
		B136	2	10 — 13	13 — 14	—
Sensor power supply		B136	15	5	5	—
Line end check 1		B135	20	0	0	—
Ignition control	#1, #2	B134	25	0	1 — 3.4	Waveform
	#3, #4	B134	26	0	1 — 3.4	Waveform
Fuel injector	#1	B134	4	10 — 13	1 — 14	Waveform
	#2	B134	13	10 — 13	1 — 14	Waveform
	#3	B134	14	10 — 13	1 — 14	Waveform
	#4	B134	15	10 — 13	1 — 14	Waveform
Idle air control solenoid valve	Signal 1	B134	5	—	1 — 13	Waveform
	Signal 2	B134	6	—	1 — 13	Waveform
	Signal 3	B134	19	—	1 — 13	Waveform
	Signal 4	B134	20	—	1 — 13	Waveform
	Power supply	B136	2	10 — 13	13 — 14	—
Fuel pump relay control		B134	16	ON: 0.5, or less OFF: 10 — 13	0.5, or less	—
A/C relay control		B134	17	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	—
Radiator fan relay 1 control		B134	3	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	—
Radiator fan relay 2 control		B134	2	ON: 0.5, or less OFF: 10 — 13	ON: 0.5, or less OFF: 13 — 14	With A/C vehicles only
Self-shutoff control		B135	19	10 — 13	13 — 14	—
Malfunction indicator lamp		B134	11	—	—	Light "ON": 1, or less Light "OFF": 10 — 14
Engine speed output		B134	30	—	0 — 13, or more	Waveform

# ON-BOARD DIAGNOSTICS II SYSTEM

[T5B0] 2-7  
5. Specified Data

Content	Connector No.	Terminal No.	Signal (V)		Note
			Ignition SW ON (Engine OFF)	Engine ON (Idling)	
Torque control 1 signal	B135	16	5	5	—
Torque control 2 signal	B135	17	5	5	—
Torque control cut signal	B134	31	8	8	—
Mass air flow signal for AT	B136	11	0 — 0.3	0.8 — 1.2	—
Purge control solenoid valve	B134	2	ON: 1, or less OFF: 10 — 13	ON: 1, or less OFF: 13 — 14	—
Power steering switch	B135	13	10 — 13	ON: 0 OFF: 13 — 14	Switch is ON when turning steering wheel.
Atmospheric pressure sensor	Signal	B136	29	3.5 — 3.8	—
	Power supply	B136	15	5	
	GND (sensor)	B136	16	0	
Pressure sources switching solenoid valve	B134	9	ON: 1, or less OFF: 10 — 13	ON: 1, or less OFF: 13 — 14	—
Fuel temperature sensor	B136	26	2.5 — 3.8	2.5 — 3.8	Ambient temperature: 25°C (75°F)
Fuel level sensor	B136	27	0.12 — 4.75	0.12 — 4.75	—
Fuel tank pressure sensor	Signal	B136	12	2.3 — 2.7	The value obtained after the fuel filler cap was removed once and recapped.
	Power supply	B136	15	5	
	GND (sensor)	B136	16	0	
Fuel tank pressure control solenoid valve	B134	1	ON: 1, or less OFF: 10 — 13	ON: 1, or less OFF: 13 — 14	—
Drain valve	B134	10	ON: 1, or less OFF: 10 — 13	ON: 1, or less OFF: 13 — 14	—
AT diagnosis input signal	B135	4	Less than 1 ←→ More than 4	Less than 1 ←→ More than 4	Waveform
Line end check 2	B135	21	5	5	—
GND (sensors)	B136	16	0	0	—
GND (injectors)	B134	7	0	0	—
GND (ignition system)	B134	27	0	0	—
GND (power supply)	B134	8	0	0	—
GND (control systems)	B136	21	0	0	—
	B136	22	0	0	—
GND (oxygen sensor heater 1)	B134	35	0	0	—
GND (oxygen sensor heater 2)	B134	34	0	0	—

**C: ENGINE CONDITION DATA**

Content	Model	Specified data
Mass air flow	2200 cc except California spec. vehicles	1.7 — 3.3 (g/sec): Idling
		7.1 — 14.2 (g/sec): 2,500 rpm racing
	2500 cc	2.2 — 4.2 (g/sec): Idling
		8.6 — 14.2 (g/sec): 2,500 rpm racing
Engine load	2200 cc California spec. vehicles	1.6 — 2.9 (%): Idling
		6.4 — 12.8 (%): 2,500 rpm racing
	2200 cc except California spec. vehicles	1.6 — 2.9 (%): Idling
		6.4 — 12.8 (%): 2,500 rpm racing
	2500 cc	1.9 — 3.5 (%): Idling
		7.2 — 12.1 (%): 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.