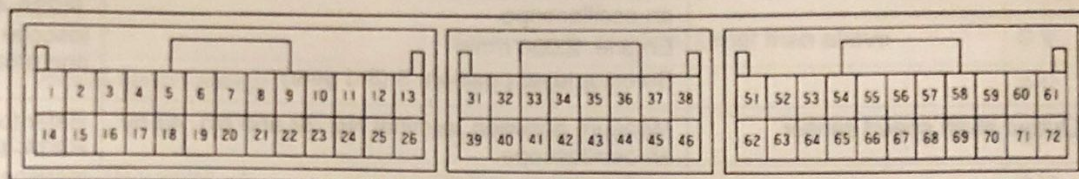


CHECK AT TCM TERMINALS



A9FA0133

Terminal No.	Check item	Check requirement	Standard value
1	Underdrive solenoid valve	Selector lever position: L (1st gear)	Battery voltage
		Selector lever position: P	Approx. 7 – 9 V
2	Solenoid valve power supply	Ignition switch: OFF	0 V
		Ignition switch: ON	Battery voltage
3	Solenoid valve power supply	Ignition switch: OFF	0 V
		Ignition switch: ON	Battery voltage
8	Auto-cruise ECM	No OD-OFF request	Battery voltage
		OD-OFF request	0 V
10	A/C compressor load signal	A/C switch: OFF	0 V
		A/C switch: ON	Battery voltage
11	Power supply	Ignition switch: OFF	0 V
		Ignition switch: ON	Battery voltage
12	Ground	Always	0 V
13	Ground	Always	0 V
14	Overdrive solenoid valve	Selector lever position: 3 (3rd gear)	Battery voltage
		Selector lever position: P	Approx. 7 – 9 V
15	Torque converter control solenoid	Selector lever position: L (1st gear)	Battery voltage
		Selector lever position: 3 (50 km/h in 3rd gear)	Battery voltage
16	Second solenoid valve	Selector lever position: 2 (2nd gear)	Battery voltage
		Selector lever position: P	Approx. 7 – 9 V
23	Diagnosis control	—	—
24	Power supply	Ignition switch: OFF	0 V
		Ignition switch: ON	Battery voltage
25	Ground	Always	0 V
26	Ground	Always	0 V

Terminal No.	Check item	Check requirement	Standard value
31	Input shaft speed sensor	Measure between terminal No. 31 and No. 43 by an oscilloscope. Engine: 2,000 r/min Selector lever position: 3 (3rd gear)	Refer to P.23A-47, Oscilloscope inspection procedure.
32	Output shaft speed sensor	Measure between terminal No. 32 and No. 43 by an oscilloscope. Engine: 2,000 r/min Selector lever position: 3 (3rd gear)	Refer to P.23A-47, Oscilloscope inspection procedure.
33	Crankshaft position sensor	Engine: Idling	2.0 – 2.4 V
36	Closed throttle position switch	Engine: Idling	0 V
		Engine: Other than idling	5 V
38	Back up power supply	Always	Battery voltage
43	Sensor ground	Always	0 V
44	Oil temperature sensor	ATF temperature: 25 °C	3.8 – 4.0 V
		ATF temperature: 80 °C	2.3 – 2.5 V
45	Throttle position sensor (TPS)	Accelerator pedal: Released (Engine stopped)	0.5 – 1.0 V
		Accelerator pedal: Depressed (Engine stopped)	4.5 – 5.0 V
53	Communication with ECM	Engine: Idling Selector lever position: D	Other than 0 V
54	Communication with ECM	Engine: Idling Selector lever position: D	Other than 0 V
55	PNP switch P	Selector lever position: P	Battery voltage
		Selector lever position: Other than above	0 V
56	PNP switch N	Selector lever position: N	Battery voltage
		Selector lever position: Other than above	0 V
57	PNP switch 3	Selector lever position: 3	Battery voltage
		Selector lever position: Other than above	0 V
58	PNP switch L	Selector lever position: L	Battery voltage
		Selector lever position: Other than above	0 V
59	Stop light switch	Brake pedal: Depressed	Battery voltage
		Brake pedal: Released	0 V
62	Low and reverse solenoid valve	Selector lever position: P	Battery voltage
		Selector lever position: 2 (2nd gear)	Approx. 7 – 9 V
63	Diagnosis output	Normal (No diagnosis code output)	0 → 5 V flashing
66	PNP switch R	Selector lever position: R	Battery voltage
		Selector lever position: Other than above	0 V
67	PNP switch D	Selector lever position: D	Battery voltage
		Selector lever position: Other than above	0 V

Terminal No.	Check item	Check requirement	Standard value
68	PNP switch 2	Selector lever position: 2	Battery voltage
		Selector lever position: Other than above	0 V
69	Vehicle speed sensor	When stopped	0 V
		Move forward slowly	0 → 5 V flashing
71	A/T control relay	Ignition switch: OFF	0 V
		Ignition switch: ON	Battery voltage
72	Ground	Ignition switch: ON	0 V

OSCILLOSCOPE INSPECTION PROCEDURE

Check item	Check requirement		Normal condition (Waveform sample)
Crankshaft position sensor	Selector lever position: N	Idling (Vehicle stopped)	Waveform A
Input shaft speed sensor	Selector lever position: 3	Driving at constant speed of 50 km/h in 3rd gear (Engine: 1,800 – 2,100 r/min)	Waveform B
Output shaft speed sensor			
Vehicle speed sensor			
Low reverse solenoid valve	Ignition switch: ON Selector lever position: P Engine: 0 r/min Vehicle speed: 0 km/h (Vehicle stopped) Throttle (Accelerator) opening angle: Less than 1 V Closed throttle position switch: ON	Force drive each solenoid valve (Actuator test)	Waveform C
Underdrive solenoid valve			
Second solenoid valve			
Overdrive solenoid valve			
Torque converter clutch control solenoid			

Waveform sample

