

# J - PIN VOLTAGE CHARTS

## 1994 Toyota Celica

1994 ENGINE PERFORMANCE  
Toyota Pin Voltage Charts

Celica

### INTRODUCTION

Pin voltage charts are supplied to reduce diagnostic time. Checking pin voltages at the ECM determines whether it's receiving and transmitting proper voltage signals. Charts may also help determine if ECM harness is shorted or opened.

NOTE: Unless stated otherwise in testing procedures, perform all voltage tests using a Digital Volt-Ohmmeter (DVOM) with a minimum 10-megohm input impedance. Voltage readings may vary slightly due to battery condition or charging rate.

### ECM LOCATION & IDENTIFICATION

#### ECM LOCATION TABLE

Model	Location
Celica	Below Passenger's Side Of Dash Underneath The Carpet

#### ECM PIN CONNECTOR ABBREVIATION IDENTIFICATION TABLE

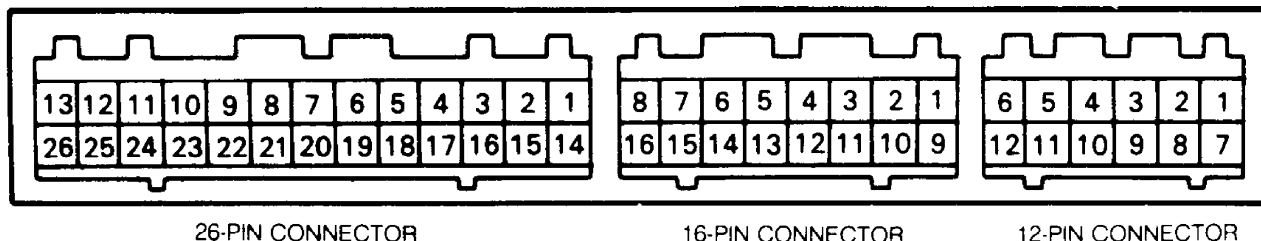
Abbreviation	Function
ABS	Anti-Lock Brake ECM
ACA, ACT, ATS	A/C Amplifier
AC, AC1, A/C	A/C Compressor Or Magnetic Switch
A/D	Cruise Control Computer
AI	Air Injection Vacuum Switching Valve
AS	Air Suction Vacuum Switching Valve
BATT	Battery
BK	Brake Switch
B, +B, +B1	EFI Main Relay
CHK	Sub-Oxygen Sensor
C1	Distributor
DFG	Defogger Relay
DG	Check Connector
ECT	Electronically Controlled Transmission/Transaxle (ECT)
EGR	EGR Vacuum Switching Valve
ELS	Headlight & Defogger Relay
E1, E2, E01, E02	Engine Or Computer Ground
E11, E2, E21, E22	Sensor Ground
FC	Circuit Opening Relay
FP	Fuel Pump Relay
FPR	Fuel Pump Relay
FPU	Fuel Pressure-Up Vacuum Switching Valve
G, G1, G2	Cam Position Sensor Or Distributor
G-, G+	Cam Position Sensor Or Distributor (Crank Angle)
HT	Oxygen Sensor Heater
HT1	Oxygen Sensor Heater (Main)
HT2	Oxygen Sensor Heater (Sub)
IDL	Throttle Position Sensor

IGDA, IGDB ..... Ignitor  
 IGF ..... Ignitor  
 IG SW ..... Ignition Switch  
 IGT ..... Ignitor (Primary Trigger)  
 ISCC, ISCO ..... Idle Speed Control Valve  
 ISCV ..... A/C Idle-Up Vacuum Switching Valve  
 ISC1, ISC2, ISC3, ISC4 .. Idle Speed Control Valve Or Motor  
 KNK, KNK1, KNK2 ..... Knock Sensor  
 KS ..... Airflow Meter  
 L ..... Neutral Start Switch Or Shift Position Switch  
 LP ..... Headlight Relay  
 L1, L2, L3, L4 ..... (1) ECT  
 M ..... Neutral Start Switch Or Shift Position Switch  
 M-REL ..... EFI Main Relay  
 MS ..... Engine Oil Level Sensor  
 N ..... Neutral Start Switch Or Shift Position Switch  
 N/C ..... Clutch Switch (M/T)  
 NE, NE-, NE+ ..... Cam Position Sensor Or Distributor (RPM)  
 NSW ..... Neutral/Start Switch (A/T)  
 No. 1-4 ..... Injector  
 No. 10, 20 & 30 ..... Injector  
 OD, ODT ..... Overdrive Solenoid  
 OD1 ..... Overdrive Off Switch  
 OD2 ..... Cruise Control Computer Or Overdrive Main Switch  
 O/G ..... Check Connector  
 OIL ..... Oil Pressure Switch Or  
 A/T Oil Temperature Warning Light  
 OLS ..... Engine Oil Level Sensor  
 OMR ..... Engine Oil Feed Motor  
 OMT ..... Engine Oil Feed Motor Relay  
 OSFC ..... Overspeed Fuel Cut  
 OW ..... Engine Oil Warning Light  
 OX, OX1, OX+ ..... Oxygen Sensor  
 OX2 ..... Sub-Oxygen Sensor  
 P ..... Shift Position Switch Or Pattern Select Switch  
 PS ..... Power Steering ECM  
 PSCT ..... Power Steering ECM  
 PSW ..... Throttle Position Sensor  
 PIM ..... Vacuum Sensor Or Turbocharger Pressure Sensor  
 PSW ..... Throttle Position Sensor  
 PWR ..... Pattern Select Switch  
 R ..... Neutral Start Switch Or Shift Position Switch  
 RSC ..... Idle Speed Control Valve  
 RSO ..... Idle Speed Control Valve  
 S ..... Neutral Start Switch Or Shift Position Switch  
 SL, S1, S2 ..... (1) ECT Solenoid  
 SPD, SPD1, SPD2 ..... Vehicle Speed Sensor  
 SP1, SPD1 ..... No. 1 Vehicle Speed Sensor, (1) ECT  
 In Instrument Cluster  
 SP2, SPD2 ..... No. 2 Vehicle Speed Sensor, (1) ECT  
 In Transaxle or Transmission  
 STA ..... Starter Signal  
 STP ..... Stoplight Switch  
 STJ ..... Cold Start Injector  
 S1, S2, S3, S4 ..... (1) ECT Solenoid  
 T, TT ..... Check Connector Or (2) DLC  
 THA, THA1 ..... Air Temperature Sensor  
 THE ..... Evaporator Temperature Sensor  
 THG ..... EGR Gas Temperature Sensor  
 THO, THO1, THO2 ..... Transmission Oil Temperature Sensor  
 THW ..... Coolant Temperature Sensor  
 TIL ..... Turbo Indicator Light  
 TOV ..... Throttle Opener Vacuum Switching Valve

TPC, TPC1 ..... Turbocharger Pressure  
   Vacuum Switching Valve  
 TVIS ..... Variable Induction System  
   Vacuum Switching Valve  
 TWS ..... Coolant Temperature Switch  
 T2 ..... Check Connector  
 VC ..... Airflow Meter, Vacuum Sensor Or  
   Throttle Position Sensor  
 VCC ..... Throttle Position Sensor Or Vacuum Sensor  
 VF, VF1, VF2 ..... Check Connector  
 V-ISC ..... Auxiliary Control Valve Or Idle-Up System  
   Vacuum Switching Valve  
 VS ..... Airflow Meter  
 VSV1 ..... Air Control Vacuum Switching Valve  
 VSV2 ..... Fuel Pressure-Up Vacuum Switching Valve  
 VTA ..... Throttle Position Sensor  
 W ..... Malfunction Indicator Light  
 2 ..... Neutral Start Switch Or  
   Shift Position Switch  
 4WD ..... 4WD Indicator

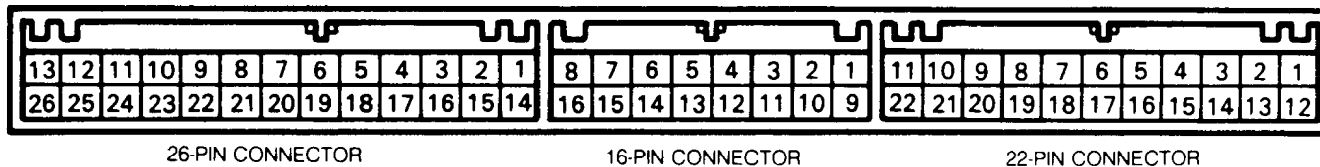
(1) - Electronically Controlled Transmission/Transaxle (ECT).  
 (2) - Data Link Connector (DLC).

### PIN VOLTAGE CHARTS



#### 94F45596

Fig. 1: ECM Terminal ID - Manual Transmission  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



#### 94H45598

Fig. 2: ECM Terminal ID - Automatic Transmission  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

#### 1.8L 16-PIN CONNECTOR CHART

Terminal ID No./Wire Color	Function/ Description	Voltage Value
VC 1 Red	Airflow Meter Throttle Position Sensor	4.5-5.5V w/ Ignition On
PIM 2 Gray/Black	MAP Sensor	3.3-3.9V w/ Ignition On, 2.5-3.1V At Idle

THA 3 Blue/Red	Intake Air Temperature Sensor	.5-3.4V w/ Ignition On, Intake Air Temp 68°F (20°C)
THW 4 Green	Engine Coolant Temperature Sensor	.2-1V w/ Ignition On, Coolant Temp 176°F (80°C)
OX2 5 White	Sub-Oxygen Sensor	
OX1 6 White	Main Oxygen Sensor	Pulse Generator at 2500 RPM After 2 Minutes
TT 7 Black	Check Connector	
VF 8 Red/White	Check Connector	1.8-3.2V at Idle After 2500 RPM for 2 Minutes
E2 9 Brown	Sensor Ground	
THG 10 Black/Red	EGR Gas Temperature Sensor	
VTA 11 Black/White	Throttle Position Sensor	.3-.8V w/ Ignition On, Throttle Valve Closed 3.2-4.9V w/ Ignition On, Throttle Valve Open
IDL 12 Blue/White	Throttle Position Sensor	3V or Less w/ Ignition On, Throttle Valve Closed, Vacuum Applied to Throttle Opener 9-14V w/ Ignition On, Throttle Valve Open
KNK 13 White	Knock Sensor	Pulse Generator At Idle
TE2 14 Lt Green	Check Connector	9-14V w/ Ignition On
TE1 15 Yellow	Check Connector	9-14V w/ Ignition On
16	Blank	

#### 1.8L M/T 16-PIN CONNECTOR CHART

Terminal ID No./Wire Color	Function/Description	Voltage Value
1	Blank	
PIM 2 Gray/Black	MAP Sensor	3.3-3.9 w/ Ignition On
THA 3 Blue/Red	Intake Air Temperature Sensor	.5-3.4V w/ Ignition On, Intake Air Temp 68°F

		(20°C)
THW 4 Green	Engine Coolant Temperature Sensor	.2-1V w/ Ignition On, Coolant Temp 176°F (80°C)
OX2 5 White	Sub-Oxygen Sensor	
OX1 6 White	Main Oxygen Sensor	Pulse Generator at 2500 RPM After 2 Minutes
TE2 7 Lt Green	Check Connector	9-14V w/ Ignition On
VF 8 Red/White	Check Connector	1.8-3.2V at Idle After 2500 RPM for 2 Minutes
E2 9 Black/White	Sensor Ground	
VTA 10 Black/White	Throttle Position Sensor	.3-.8V w/ Ignition On, Throttle Valve Closed 3.2-4.9V w/ Ignition On, Throttle Valve Open
VC 11 Red	Airflow Meter Throttle Position Sensor	4.5-5.5V w/ Ignition On
IDL 12 Blue/White	Throttle Position Sensor	3V or Less w/ Ignition On, Throttle Valve Closed, Vacuum Applied to Throttle Opener 9-14V w/ Ignition On, Throttle Valve Open
THG 13 Black/Red	EGR Gas Temperature Sensor	
KNK 14 White	Knock Sensor	Pulse Generator at Idle
TE1 15 Yellow	Check Connector	9-14V w/ Ignition On
16	Blank	

#### 1.8L M/T 12-PIN CONNECTOR CHART

Terminal ID No./Wire Color	Function/ Description	Voltage Value
1	Blank	
BATT 2 Pink	Battery	9-14V At All Times
3	Blank	
FC 4 Green/Red	Circuit Opening Relay	

5	Blank	
ACT 6 Green/Yellow	A/C Amplifier	
+B 7 Black/Yellow	EFI Main Relay	9-14V w/ Ignition On
W 8 Red/Green	Warning Indicator	9-14V At Idle, 3V or Less w/ Ignition On
9	Blank	
AC1 10 Blue/Black	A/C Amplifier	1.5V or Less At Idle A/C On, 9-14V w/ A/C Off
SPD 11 Orange	Speed Sensor	Pulse Generator with Ignition On, Rotate Drive Wheel
ELS 12 Orange	Taillight & Defogger Relay	

#### 1.8L M/T 26-PIN CONNECTOR CHART

Terminal ID No./Wire Color	Function/Description	Voltage Value
1	Blank	
STA 2 Black	Starter Signal	
IGF 3 Black/Yellow	Ignitor	2V or Less with Ignition On
NE+ 4 Yellow	Distributor	Pulse Generator At Idle
G1 5 Red	Distributor	Pulse Generator At Idle
6	Blank	
7	Blank	
8	Blank	
RSC 9 Green/White	Idle Air Control Valve	9-14V w/ Ignition On
RSO 10 Black/White	Idle Air Control Valve	9-14V w/ Ignition On
11	Blank	
No. 10 12 Black/Yellow	Fuel Injector	9-14V w/ Ignition On
EO2 13 Black/White	Power Ground	

14	Blank	
15	Blank	
EGR 16 Blue/Black	EGR VSV	9-14V w/ Ignition On
NE- 17 Blue	Distributor	
G- 18 Black	Distributor	
19	Blank	
20	Blank	
21	Blank	
IGT 22 White	Ignitor	Pulse Generator At Idle
ISC 23 Red/Yellow	A/C Idle Up VSV	3V or Less At Idle A/C On 9-14V At Idle, A/C Off
E1 24 Brown	ECM Ground	
No. 20 25 Black/Red	Fuel Injector	9-14V w/ Ignition On
EO2 26 Black/White	Power Ground	

#### 1.8L A/T 22-PIN CONNECTOR CHART

Terminal ID No./Wire Color	Function/ Description	Voltage Value
BATT 1 Pink	Battery	9-14V At All Times
ELS 2 Orange	Taillight & Defogger	7.5-14V with Switches On 1.5V or Less with Switches Off
3	Blank	
BK 4 Green/White	Stoplight Switch	
W 5 Red/Green	Warning Indicator	9-14V At Idle, 3V or Less with Ignition On
6	Blank	
OD2 7 Gray/Blue	O/D Main Switch	9-14V with Ignition On, O/D Switch On, 1V or Less with Ignition On, O/D Switch Off

8	Blank	
SPD 9 Orange	No. 1 Speed Sensor	Pulse Generator with Ignition On, Rotate Drive Wheel
AC1 10 Blue/Black	A/C Amplifier	4.5-5.5V with A/C Off 1.5V or Less with A/C On
STA 11 Black	Starter Signal	
+B 12 Black/Yellow	EFI Main Relay	9-14V with Ignition On
13	Blank	
FC 14 Green/Red	Circuit Opening Relay	
15	Blank	
16	Blank	
17	Blank	
18	Blank	
19	Blank	
OD1 20 Pink	Cruise Control ECM	9-14V with Ignition On
ACT 21 Green/Yellow	A/C Amplifier	
NSW 22 Black/Yellow	Neutral/Start Switch	9-14V with Ignition On, Gearshift Not In "P" or "N" 3V or Less with Ignition On, Gearshift in "P" or "N"

#### 1.8L A/T 16-PIN CONNECTOR CHART

Terminal ID No./Wire Color	Function/ Description	Voltage Value
VC 1 Red	Airflow Meter Throttle Position Sensor	4.5-5.5V w/ Ignition On
PIM 2 Gray/Black	MAP Sensor	3.3-3.9V w/ Ignition On, 2.5-3.1V At Idle
THA 3 Blue/Red	Intake Air Temperature Sensor	.5-3.4V with Ignition On Intake Air Temp 68°F (20°C)
THW 4 Green	Engine Coolant Temperature Sensor	.2-1V with Ignition On, Coolant Temp 176°F (80°C)



OX2 5 White	Sub-Oxygen Sensor	
OX1 6 White	Main Oxygen Sensor	Pulse Generator at 2500 RPM After 2 Minutes
TT 7 Black	Check Connector	
VF 8 Red/White	Check Connector	1.8-3.2V At Idle After 2500 RPM For 2 Minutes
E2 9 Brown	Sensor Ground	
THG 10 Black/Red	EGR Gas Temperature Sensor	
VTA 11 Black/White	Throttle Position Sensor	.3-.8V with Ignition On, Throttle Valve Closed, 3.2-4.9V with Ignition On, Throttle Valve Open
IDL 12 Blue/White	Throttle Position Sensor	3V or Less with Ignition On, Throttle Valve Closed, Vacuum Applied to Throttle Opener, 9-14V with Ignition On, Throttle Valve Open
KNK 13 White	Knock Sensor	Pulse Generator At Idle
TE2 14 Lt Green	Check Connector	9-14V with Ignition On
TE1 15 Yellow	Check Connector	9-14V with Ignition On
16	Blank	

#### 1.8L A/T 26-PIN CONNECTOR CHART

Terminal ID No./Wire Color	Function/ Description	Voltage Value
SL 1 Yellow/Black	A/T SL Solenoid	
S1 2 Violet	A/T No. 1 Solenoid	
IGF 3 Black/Yellow	Ignitor	2V or Less with Ignition On
NE+ 4 Yellow	Distributor	Pulse Generator At Idle
G- 5 Black	Distributor	Pulse Generator At Idle

2 6 Violet/Green	Park/Neutral Position Switch	
7	Blank	
8	Blank	
RSC 9 Green/White	Idle Air Control Valve	9-14V with Ignition On
RSO 10 Black/White	Idle Air Control Valve	9-14V with Ignition On
No. 20 11 Black/Red	Fuel Injector	9-14V with Ignition On
No. 10 12 Black/Yellow	Fuel Injector	9-14V with Ignition On
EO1 13 White/Black	Power Ground	
E1 14 Brown	ECM Ground	
S2 15 Brown/Yellow	A/T No. 2 Solenoid	
16	Blank	
NE- 17 Blue	Distributor	
G1 18 Red	Distributor	
L 19 Violet/Red	Park/Neutral Position Switch	
IGT 20 White	Ignitor	Pulse Generator At Idle
ISC 21 Red/Yellow	A/C Idle Up VSV	3V or Less At Idle, A/C On 9-14V At Idle, A/C Off
R 22 Red/White	Park/Neutral Position Switch	
EGR 23 Blue/Black	EGR VSV	9-14V with Ignition On
24	Blank	
25	Blank	
EO2 26 White/Black	Power Ground	

#### 2.0L 26-PIN CONNECTOR CHART

Terminal ID	Function/	Voltage Value
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No./Wire Color	Description	
SL 1 Yellow/Black	A/T SL Solenoid	
S1 2 Violet	A/T No. 1 Solenoid	
IGF 3 Black/Yellow	Ignitor	2V or Less w/Ignition On
NE (1)/NE+ (2) 4 Yellow	Distributor	Pulse Generator At Idle
G2 (1)/NE- (2) 5 Blue	Distributor	Pulse Generator At Idle
6	Blank	
ISCV 7 Red/Yellow	A/C Idle Up VSV	2V or Less At Idle with A/C On, 9-14V at Idle with A/C Off
FPU (1) 8 Blue/Red	Fuel Pressure VSV	9-14V with Ignition On, 2V or Less On Hot Restart
ISCC 9 Green/White	Idle Air Control Valve	9-14V with Ignition On
ISCO 10 Black/White	Idle Air Control Valve	9-14V with Ignition On
No. 2 (1) or 20 11 Black/Red or Black/White	Fuel Injector	9-14V with Ignition On
No. 1 (1) or 10 12 Black/Yellow or Black/Blue	Fuel Injector	9-14V with Ignition On
EO1 13 White/Black	Power Ground	
E1 14 Brown	ECM Ground	
S2 15 Brown/Yellow	A/T No. 2 Solenoid	
16	Blank	
G- 17 Black	Distributor	
G1 (1)/G+ (2) 18 Red	Distributor	Pulse Generator At Idle
19	Blank	
IGT 20 White	Ignitor	Pulse Generator At Idle

CF 21 Lt Grn/Black	Electric Cooling Fan	9-14V with Cooling Fan On, 2V or Less with Fan Off
22	Blank	
EGR 23 Blue/Blank	EGR VSV	9-14V with Ignition On
No. 4 (1) 24 Black/Yellow	Fuel Injector	9-14V with Ignition On
No. 3 (1) 25 Black/Red	Fuel Injector	9-14V with Ignition On
EO2 26 White/Black	Power Ground	
(1) - California only. (2) - Except California.		

#### 2.0L 22-PIN CONNECTOR CHART

Terminal ID No./Wire Color	Function/ Description	Voltage Value
BATT 1 Pink	Battery	9-14V At All Times
ELS 2 Orange	Taillight & Defogger Relay	7.5-14V with Switches On 1.5V or Less with Switches Off
3	Blank	
BK 4 Green/White	Stoplight Switch	
W 5 Red/Green	Warning Indicator	9-14V At Idle, 3V or Less with Ignition On
6	Blank	
OD2 7 Gray/Blue	O/D Main Switch	9-14V with Ignition On, O/D Switch On, 1V or Less with Ignition On, O/D Switch Off
ATS 8 Blue/Yellow	A/C Amplifier	1V or Less at Coolant Temp Above 212°F (100°C) 4.5-5.5V At Coolant Temp Below 212°F (100°C)
SPD 9 Orange	No. 1 Speed Sensor	Pulse Generator with Ignition On, Rotate Drive Wheel
ACA 10 Blue/Black	A/C Amplifier	4.5-5.5V with A/C Off, 1.5V or Less At Idle with A/C On
STA	Starter Signal	

11 Black		
+B 12 Black/Yellow	EFI Main Relay	9-14V with Ignition On
13	Blank	
FC 14 Green/Red	Circuit Opening Relay	
15	Blank	
16	Blank	
17	Blank	
2 18 Violet/Green	Park/Neutral Position Switch	
L 19 Violet/Red	Park/Neutral Position Switch	
OD1 20 Pink	Cruise Control ECM	9-14V with Ignition On
ACT 21 Green/Yellow	A/C Amplifier	
NSW 22 Black/Yellow	Neutral/Start Switch	9-14V with Ignition On, Gearshift Not In "P" or "N" 3V or Less with Ignition On, Gearshift In "P" or "N"