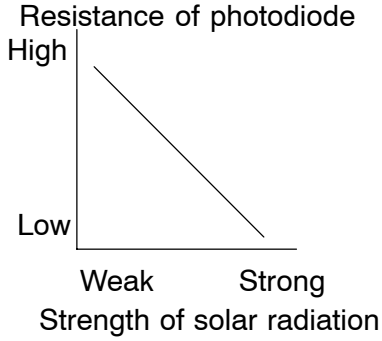
DTC B1428 REAR SOLAR SENSOR CIRCUIT

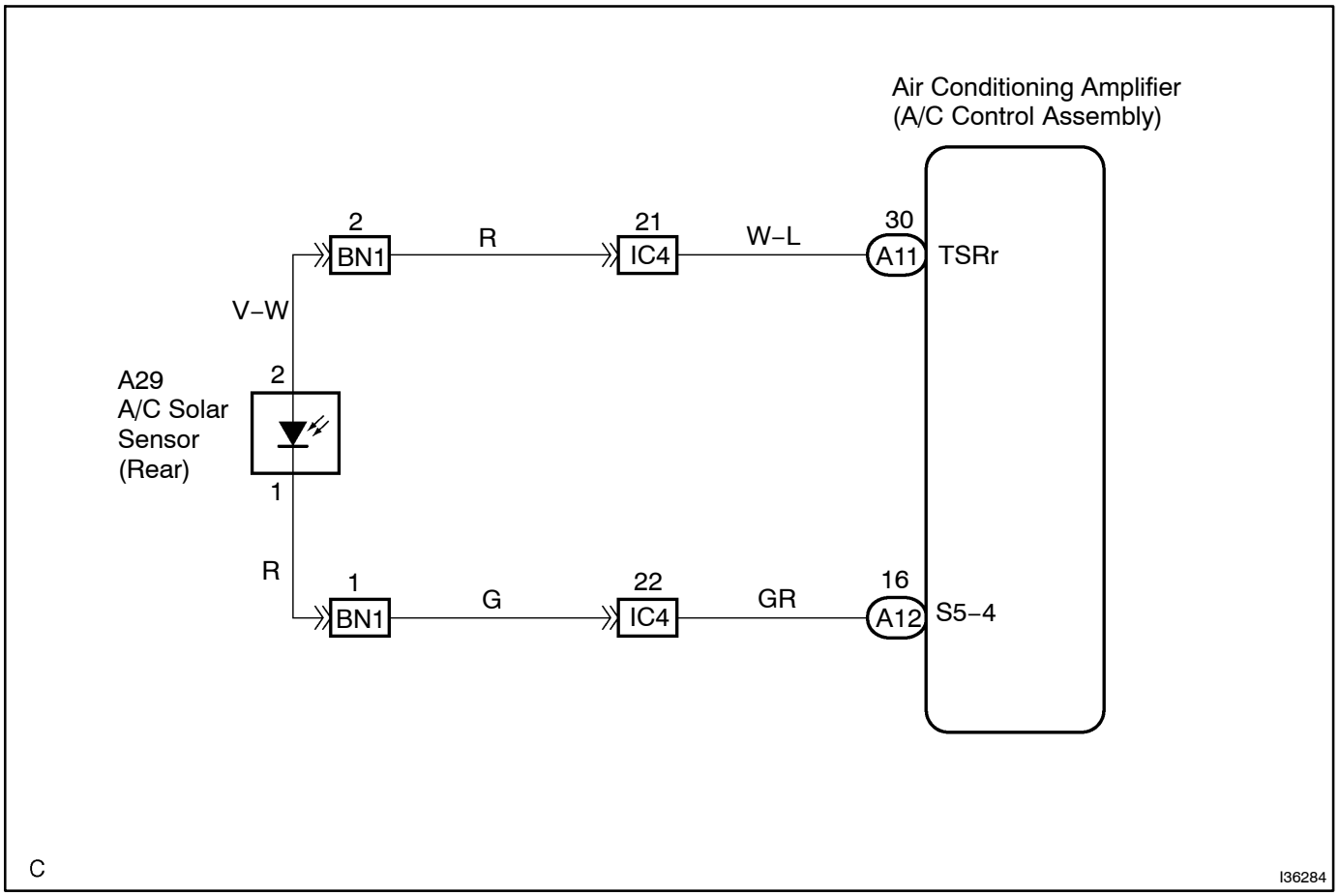
CIRCUIT DESCRIPTION



A photodiode in the A/C solar sensor detects solar radiation and sends signals to the A/C amplifier.

DTC No.	Detection Item	Trouble Area
B1428	Rear solar sensor circuit (Rear side) (Open or short)	• A/C solar sensor (Rear solar sensor) • Harness or connector between A/C solar sensor (Rear solar sensor) and A/C amplifier • A/C amplifier

WIRING DIAGRAM



INSPECTION PROCEDURE

1	READ VALUE ON HAND–HELD TESTER

(a) Connect the hand–held tester to the DLC3.
(b) Turn the ignition switch to the ON position and push the hand–held tester main switch on.
(c) Select the item below in the DATA LIST, and read the display on the hand–held tester.

DATA LIST / AIR CONDITIONER:

Item	Measure Item/Display (Range)	Normal Condition	Diagnostic Note
REAR SOLAR SENS	Rear solar sensor / min.: 0 max.: 255	Changes depending on brightness	–

OK:

The display is as specified in the normal condition.

Result:

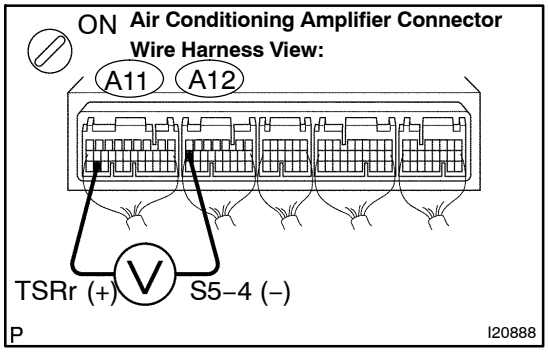
NG	A
OK (Checking from the PROBLEM SYMPTOM TABLE)	B
OK (Checking from the DTC)	C

B → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–885)**

C → **REPLACE AIR CONDITIONING AMPLIFIER (SEE PAGE 55–16)**

A

2 INSPECT AIR CONDITIONING AMPLIFIER(TSRr – GND)



(a) Remove the A/C amplifier with connector still connected.
(b) Turn the ignition switch to the ON position.
(c) Measure the voltage according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified condition
A11–30 (TSRr) – A12–16 (S5–4)	Sensor is subjected to electric light	0.8 to 4.3 V
A11–30 (TSRr) – A12–16 (S5–4)	Sensor is covered by a cloth	Below 0.8 V

HINT:

- As the temperature increases, the voltage decreases.
- Use an incandescent lamp for inspection. Bring it within 30 cm (11.8 in.) of the solar sensor.

Result:

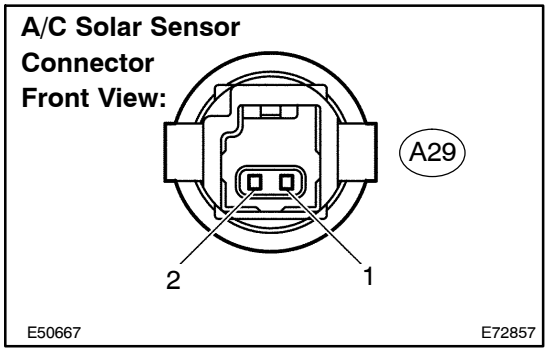
NG	A
OK (Checking from the PROBLEM SYMPTOMS TABLE)	B
OK (Checking from the DTC)	C

B → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–885)**

C → **REPLACE AIR CONDITIONING AMPLIFIER (SEE PAGE 55–16)**

A

3	INSPECT A/C SOLAR SENSOR



(a) Remove the A/C solar sensor.

(b) Measure the resistance according to the value(s) in the table below.

(c) Connect the positive (+) lead from the ohmmeter to terminal 1 and negative (–) lead to terminal 2 of the A/C solar sensor.

Standard:

Tester connection	Condition	Specified condition
A29–1 – A29–2	Sensor is subjected to electric light	Except ∞ Ω
A29–1 – A29–2	Sensor is covered by a cloth	∞ Ω (No continuity)

NOTICE:

The connection procedure for using a digital tester such as a TOYOTA electrical tester is shown above. When using an analog tester, connect the positive (+) lead to terminal 2 and negative (–) lead to terminal 1 of the solar sensor.

HINT:

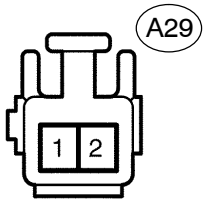
- As the inspection light is moved away from the sensor, the voltage increases.
- Use an incandescent lamp for inspection. Bring it within 30 cm (11.8 in.) of the solar sensor.

NG → **REPLACE A/C SOLAR SENSOR**

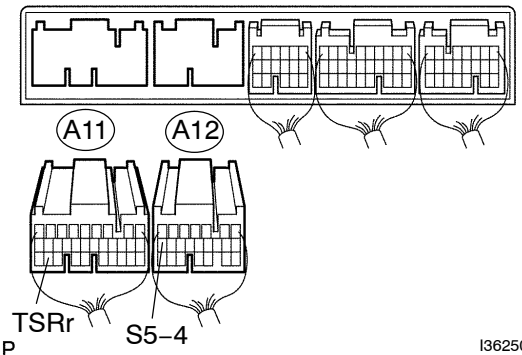
OK

4	CHECK HARNESS AND CONNECTOR(A/C SOLAR SENSOR – AIR CONDITONING AMPLIFIER)

A/C Solar Sensor Connector
Front View:



Air Conditioning Amplifier Connector
Wire Harness View:



(a) Measure the resistance according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified condition
A11–30 (TSRr) – A29–2	Always	Below 1 Ω
A12–16 (S5–4) – A29–1	Always	Below 1 Ω
A11–30 (TSRr) – Body ground	Always	10 kΩ or higher
A12–16 (S5–4) – Body ground	Always	10 kΩ or higher

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE AIR CONDITIONING AMPLIFIER (SEE PAGE 55–16)