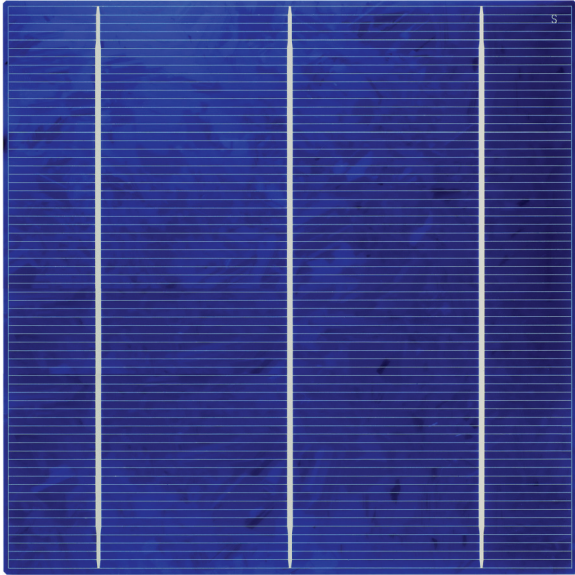


# SOLAR CELLS



## Sunways Solar Cells Multi 156 (CA50-L)

Due to optimised material components, the re-engineered surface of the textured multicrystalline Sunways Solar Cell results in a high cell output while at the same time offering a uniform dark-blue appearance. Three instead of two bus-bars result in optimum current pick-up and contribute to increased module efficiency. The improved contact and surface design enable excellent further processing and guarantee a high area output of the modules.

### Product description

Category:	multicrystalline textured, 3-busbar square
Format:	156 $\pm 0.5$ mm x 156 $\pm 0.5$ mm
Area:	243.36 cm <sup>2</sup>
Cell thickness:	200 $\pm 30$ $\mu$ m
Temperature coefficients:	Output -15 mW/K Open-circuit voltage -2.2 mV/K Short-circuit current +4.8 mA/K
Surface:	acidically textured

### Quality

- 100% camera-based, visual final check for an even appearance of the solar cells in the module
- 100% electric measurement with measuring equipment, calibrated according to ISO 9001:2008

### Electrical key data

Current class as per I (V <sub>FIX</sub> )	Efficiency [%]	Output at V <sub>FIX</sub> [W]	I (V <sub>FIX</sub> = 520 mV) [A]	Fill factor [%]	V <sub>OC</sub> [mV]	I <sub>SC</sub> [A]
CA508080L	17.3	4.20	8.08	78.7	629	8.52
CA508030L	17.1	4.17	8.03	78.6	627	8.50
CA507980L	17.0	4.15	7.98	78.6	624	8.47
CA507930L	16.9	4.12	7.93	78.6	622	8.44
CA507880L	16.8	4.10	7.88	78.5	620	8.42
CA507800L	16.7	4.06	7.80	78.5	617	8.38
CA507700L	16.5	4.00	7.70	78.3	614	8.34
CA507600L	16.2	3.95	7.60	78.2	611	8.30

All figures are averages (Fill factor, V<sub>OC</sub> and I<sub>SC</sub> are preliminary), all figures  $\pm$  3 %. Cell class measurement at V<sub>FIX</sub> = 520 mV.

### Information and Sales

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**Sunways**  
Photovoltaic Technology

## Solar Cells

### Recommendations for further processing

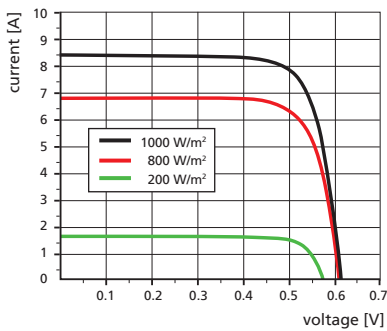
The multicrystalline Sunways Solar Cell can be processed further with tin-plated copper strips (1.8 - 2.0 mm x 0.18 mm). These are coated with 10 - 15  $\mu\text{m}$  Sn (62%), Pb (36%) and Ag (2%). We recommend the use of no clean flux. The solar cells should be preheated to 80 - 150°C and soldered at a temperature of 250 - 350°C. Contact is provided by three continuous busbars on the front of the solar cell measuring 1.54 $\pm$ 0.15 mm and on the rear side by three interrupted busbars with a width of 2.6 $\pm$ 0.5 mm. A maximum of 20 textured multicrystalline cells may be connected in series per bypass diode.

### Production and Packing

Each Sunways Solar Cell runs through a mechanical and visual quality check. Then the individual solar cells are classified in closely defined current classes. The classification is carried out according to  $I(V_{\text{FIX}} = 520 \text{ mV})$ . The solar cells are sealed in foil packages of 100 pieces. The foam packing material can hold 2 x 4 packing units (= 800 solar cells) and offers optimum protection for transport.

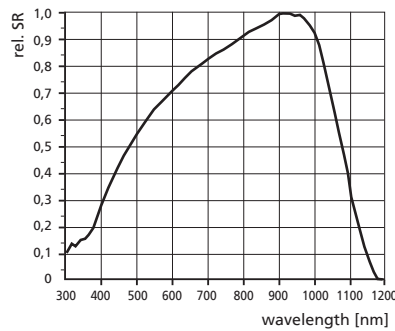
### Electrical parameters

#### IV curves



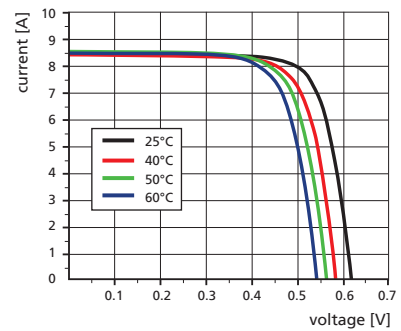
IV behaviour at various degrees of irradiation intensity.

#### Spectral response



Spectral sensitivity curve.

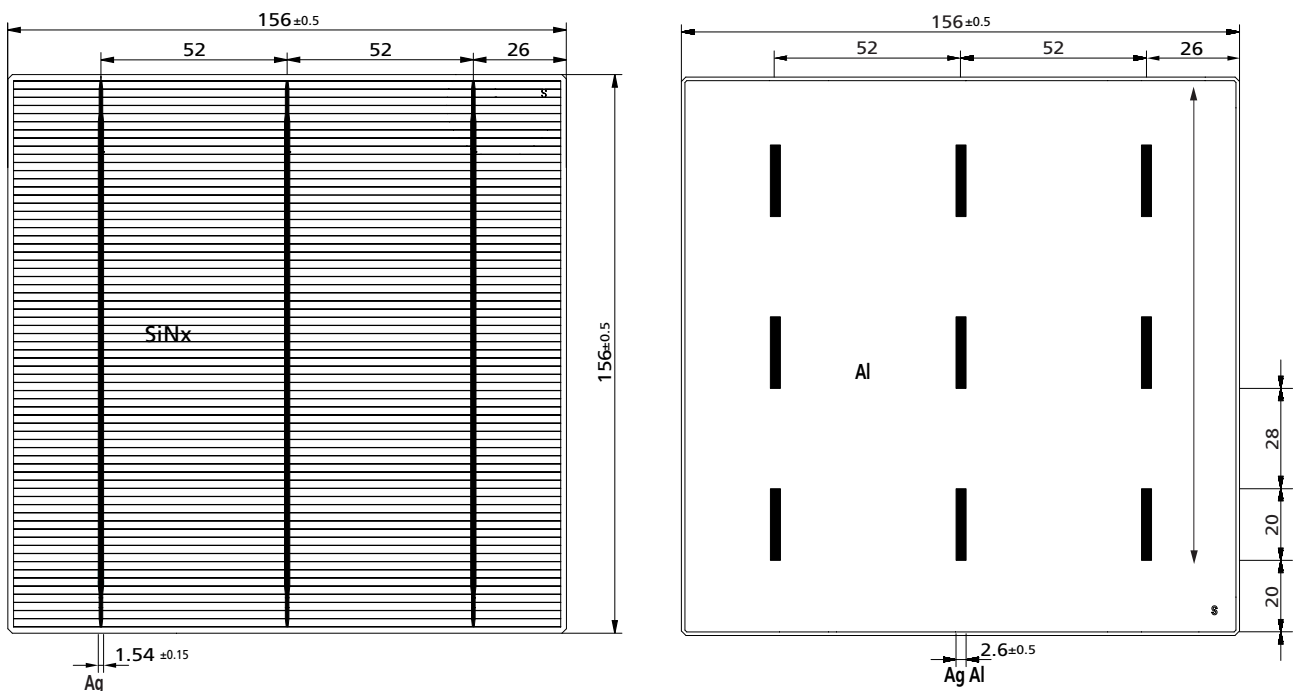
#### IV curves



IV behaviour for various temperatures.

Calibration by Fraunhofer ISE, Freiburg, Germany. All data were determined under standard test conditions. Standard test conditions (STC): Light range AM = 1.5. Irradiation strength  $E = 1,000 \text{ W/m}^2$ . Cell temperature  $T_C = 25^\circ\text{C}$ .

### Metallization drawing



Subject to technical changes, as at 11/2011

This solar cell is also available in B quality (DA507600L ... DA508080L)

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