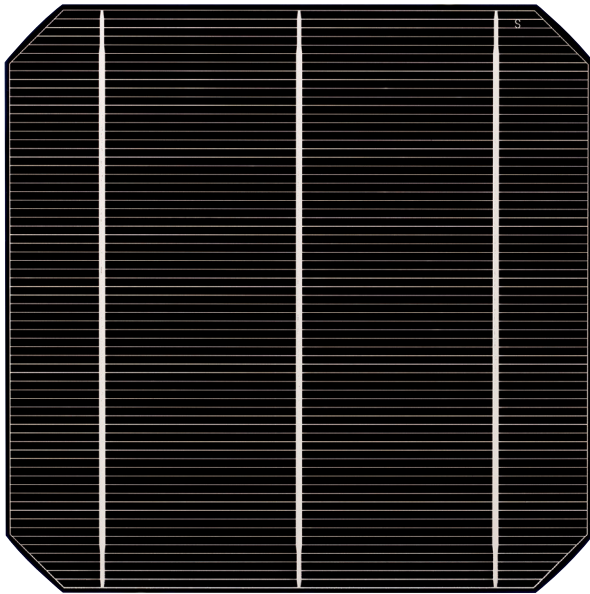


SOLAR CELLS



Sunways Solar Cells Mono 156 (AH50-H)

The monocrystalline Sunways Solar Cell is provided with three busbars. This reduces the losses during the power generation in the solar module. This contact design, in combination with the constant increase in the efficiency of the Sunways Solar Cells, results in extremely powerful and surface-effective solar modules.

Product description

| | |
|---------------------------|---|
| Category: | monocrystalline, 3 busbars |
| Format: | pseudo-square 156 ± 0.5 mm x 156 ± 0.5 mm Diagonal 200 ± 2.5 mm |
| Cell area: | 238.95 cm ² |
| Cell thickness: | 180 ± 30 μ m |
| Temperature coefficients: | Power -19 mW/K Open circuit voltage -2.3 mV/K Short circuit current +1.1 mA/K |

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 acc. to I (V _{FIX}) | Efficiency rate [%] | Power at V _{FIX} [W] | I (V _{FIX} = 525 mV) [A] | Fill factor [%] | V _{OC} [mV] | I _{SC} [A] |
|---|---------------------|-------------------------------|-----------------------------------|-----------------|----------------------|---------------------|
| AH508530H | 18.7 | 4.48 | 8.53 | 78.0 | 634 | 9.05 |
| AH508480H | 18.6 | 4.45 | 8.48 | 77.8 | 633 | 9.04 |
| AH508430H | 18.5 | 4.42 | 8.43 | 77.6 | 632 | 9.03 |
| AH508380H | 18.4 | 4.40 | 8.38 | 77.3 | 631 | 9.02 |
| AH508330H | 18.3 | 4.37 | 8.33 | 77.0 | 630 | 9.01 |
| AH508280H | 18.2 | 4.34 | 8.28 | 76.7 | 629 | 9.00 |
| AH508230H | 18.1 | 4.32 | 8.23 | 76.4 | 629 | 8.99 |

All figures are averages (Fill factor, V_{OC} and I_{SC} are preliminary), all figures ± 3 %. Cell class measurement at V_{FIX} = 525 mV.

Information and Sales

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Photovoltaic Technology

Solar Cells

Recommendations for subsequent processing

Monocrystalline Sunways Solar Cell can be processed using tin-coated copper bands (1.8 - 2.0 mm x 0.18 mm), which are coated with 10 - 15 μm Sn (62%), Pb (36%) and Ag (2%). We recommend the use of no clean flux. The solar cells should be pre-heated to 80°C - 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.

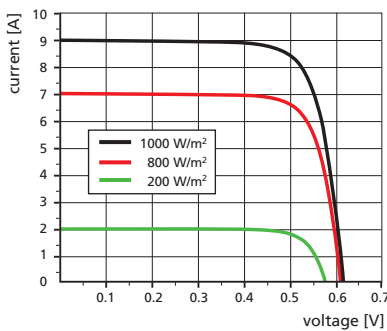
A maximum of 24 monocrystalline cells may be connected in series per bypass diode.

Production and packaging

Each Sunways Solar Cell is subjected to mechanical and optical quality control before the individual cells are divided into narrowly defined current classes, and classified according to I (V_{FIX} = 525 mV). The solar cells are sealed in foil packaging of 100 cells each. The foam packaging can hold up to 2 x 4 packaging units (= 800 solar cells) and offers optimal protection during transportation.

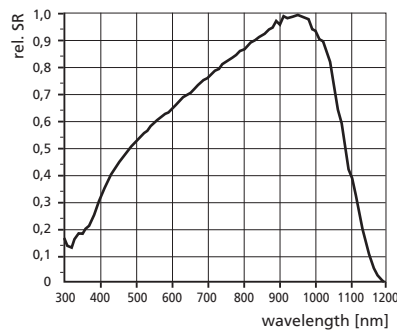
Electrical parameters

IV curves



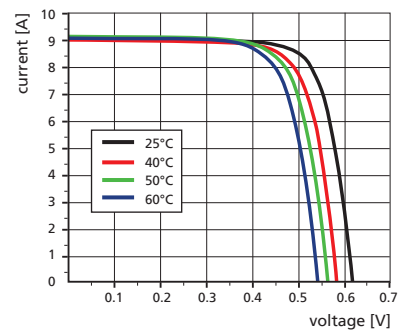
IV behaviour at various degrees of irradiation intensity.

spectral response



Spectral sensitivity curve.

IV curves

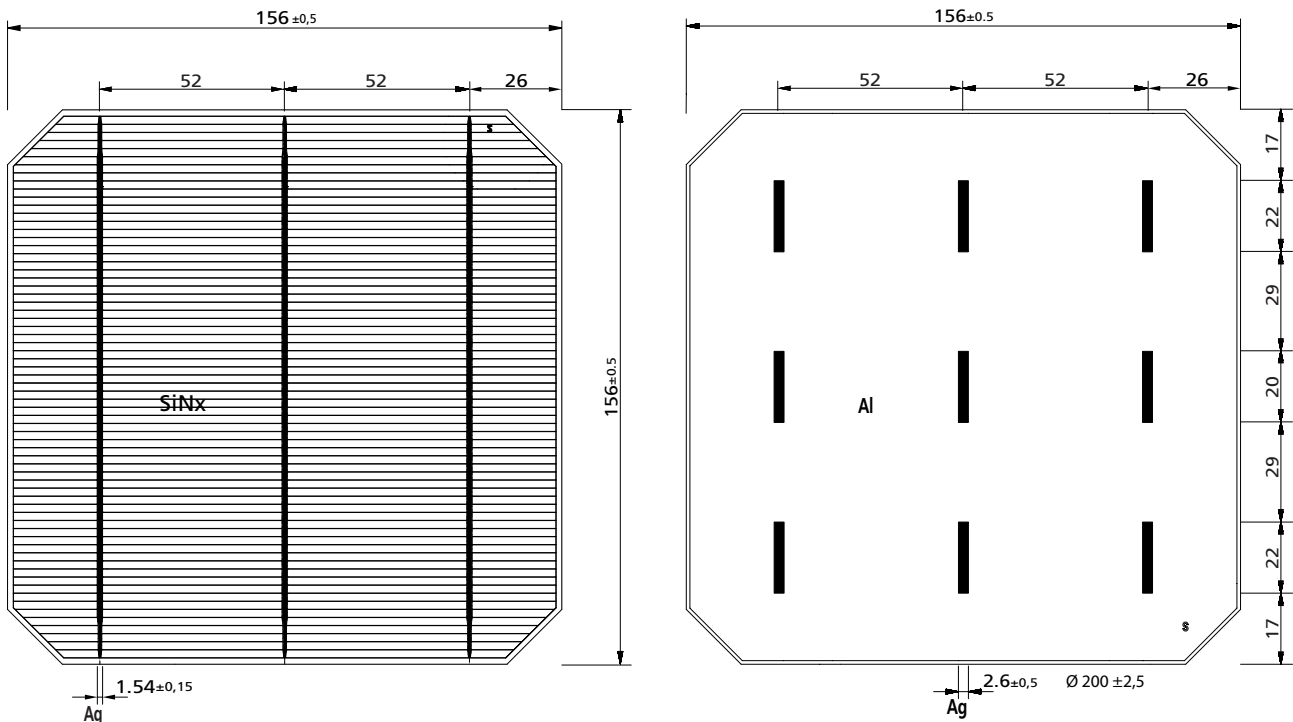


IV behaviour for various temperatures.

Calibration by Fraunhofer ISE Freiburg. All data were derived under standard test conditions.

Standard test conditions (STC): Light spectrum AM = 1.5. Irradiation intensity E = 1000 W/m². Cell temperature T_c = 25°C.

Metallization drawing



Subject to technical changes, as at 11/2011 · This solar cell is also available in B quality (BH508230H...BH508530H).

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