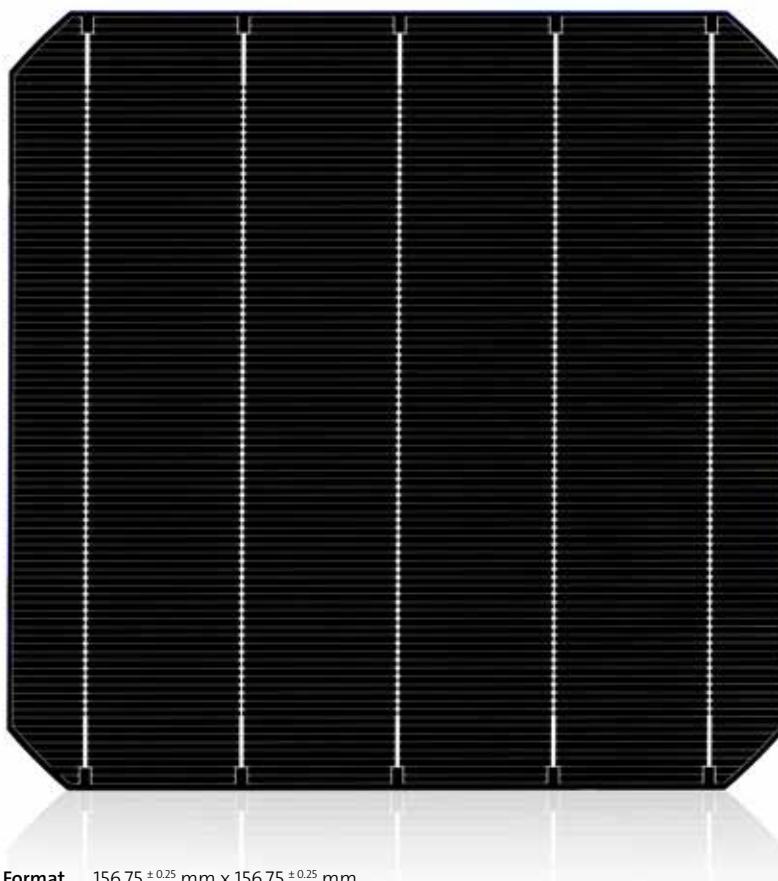


SolarWorld EfficellSM

MADE OF MONO-CRYSTALLINE SILICON



Data sheet



Format 156.75 ± 0.25 mm x 156.75 ± 0.25 mm
Thickness 180 ± 30 μm



High quality standard, high efficiencies, homogeneous optical appearance – the solar cells of Solarworld are fabricated in one of the most up-to-date production plants worldwide. Our products meet the highest demands of module producers.

- > Increased performance by improved layout and five bus bar technology.
- > Each cell individually hot spot tested.
- > Uniform optical appearance due to texturization, antireflection silicon nitride coating and sorting into predefined color categories.
- > The color of solar cells is specified by limiting samples.
- > The cells are packed in boxes each containing 150 cells. 6 boxes are placed in one cardboard box. 30 cardboard boxes are stacked on Euro pallets for shipping.

www.solarworld.de

27.07.2015EN | TCM 156 C51700

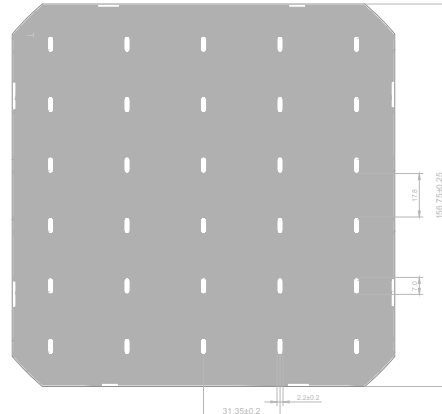
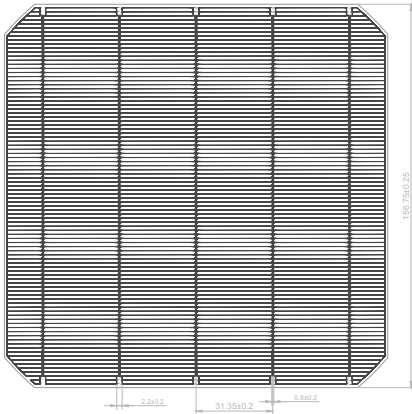
SolarWorld EfficellSM

MADE OF MONO-CRYSTALLINE SILICON



GEOMETRICAL PROPERTIES

Format	156.75 ± 0.25 mm x 156.75 ± 0.25 mm
Thickness	180 ± 30 μm
Area	242.8 cm ²



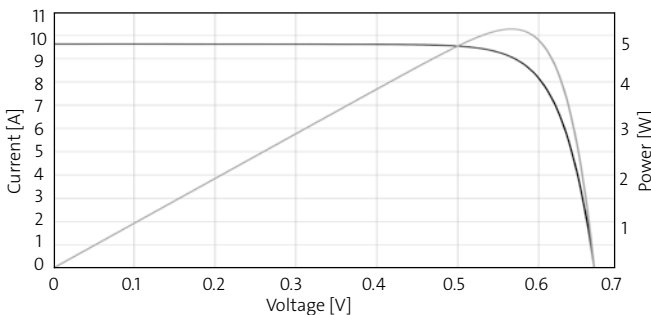
Shape	Pseudo-square
Distance between bus bars	31.35 ± 0.2 mm
Front bus bar material	Silver
Width of front bus bars	0.8 ± 0.2 mm (on widest position)
Anti reflection coating	SiN _x

Back bus bar material	Silver
Width of back bus bars	2.2 ± 0.2 mm
Back side coating	Aluminum

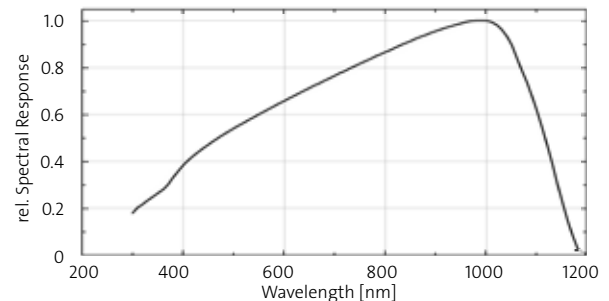
ELECTRICAL PROPERTIES AT STC	4.79	4.99	5.04	5.09	5.12
Fill Factor [%]	78.63	79.25	79.65	79.85	80.00
Voc [V]	0.659	0.662	0.665	0.666	0.667
Isc [A]	9.528	9.563	9.582	9.597	9.615
Vmpp [V]	0.552	0.558	0.562	0.564	0.566
Impp [A]	8.936	8.991	9.025	9.048	9.070
Pmpp [W]	4.79 – 4.99	4.99 – 5.04	5.04 – 5.09	5.09 – 5.12	5.12 – 5.24
Efficiency [%]	19.72 – 20.55	20.55 – 20.75	20.75 – 20.96	20.96 – 21.08	21.08 – 21.58

All electrical data measured under standard test conditions (STC): AM1.5G Ed-2, 1000 W/m², 25°C. Accuracy of all listed values is 3%.
 Temperature coefficients: T_k(P_{mp}) [%/K] = -0.43, T_k(V_{oc}) [%/K] = -0.34, T_k(I_{sc}) [%/K] = +0.05.

CURRENT- AND VOLTAGE-POWER CHARACTERISTICS



SPECTRAL RESPONSE



CONDITIONS OF SOLDERING / REMOVAL FORCE	VALUE
Tabbing ribbon basic material	Cu-EPT1
Dimension of tabbing ribbon	1-2 mm x 0.12-0.20 mm
Solder material	Sn62Pb36Ag2 or Sn60Pb40
Solder thickness	10-30 μm
Solder temperature	220-270°C
Solder time	1-2 s
Median tear force	≥ 1 N / mm

STORAGE CONDITIONS

- > Protect against humidity and solar irradiation.
- > Store at room temperature, protected from dust and moisture.
- > Do not stack more than 3 cardboard boxes
- > Handle dustproof and shock-free.
- > Storing only in closed cardboard boxes.
- > Recommended maximum handling time: no longer than 6 months after date of delivery.
- > It is essential to use "first-in-first-out" - principle.

TRANSPORT CONDITIONS

- > Do not stack palettes.

