

DATA SHEET

5 " Mono-Crystalline Solar Cell

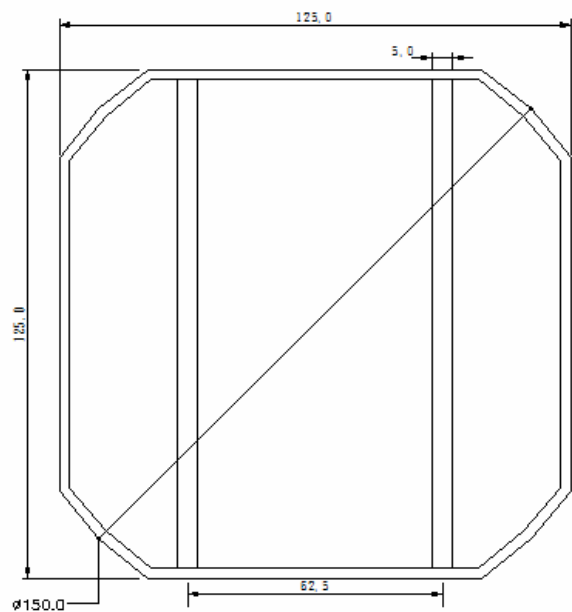
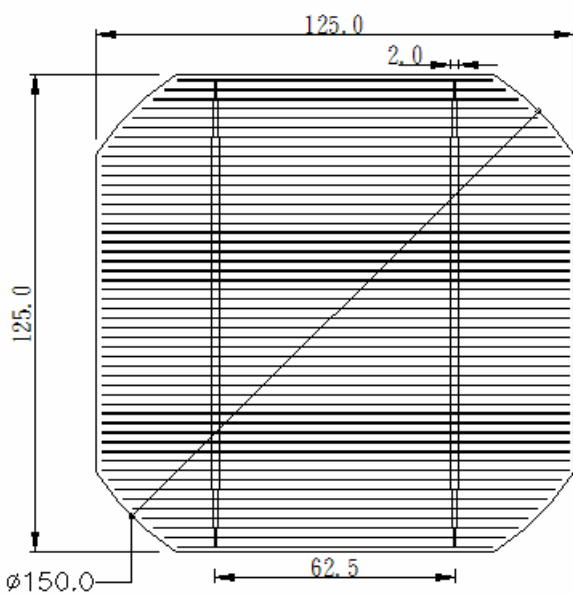
Standard Test Conditions

Standard 1000W/m2 calibrated by Fraunhofer standard cell
 Illumination Xenon short arc lamp with AM 1.5 Filter
 Air-mass temperature 25°C

Design

Substrate p-type mono-crystalline silicon wafer
 Structure n+ / p / p+
 Front-side silver bus bars; blue/purple/brown silicon nitride antireflection coating
 Back-side silver/aluminum bus bars; full-surface aluminum BSF
 Size 125mm x 125mm ± 0.5 mm (pseudo-square)
 Diagonal 150mm ± 1.0mm (round chamfers)
 Area 148.5 cm²
 Thickness 270µm ± 30µm
 Net Weight no enter
 Coefficient

coeff of current	alpha	0.070±0.015%/°C
coeff of voltage	beta	-0.313±0.015%/°C
coeff of power	gamma	-0.410±0.050%/°C



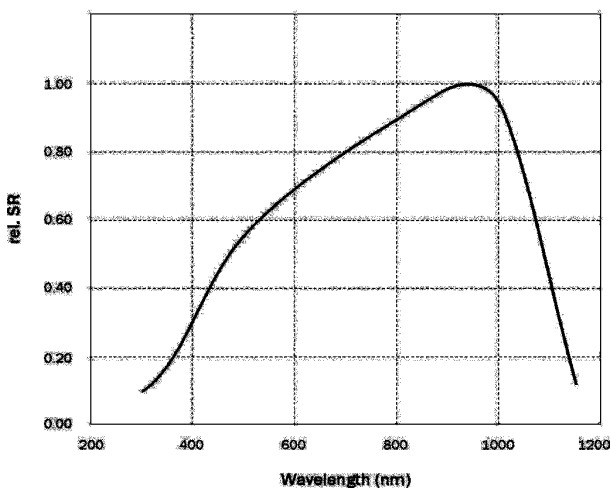
Optoelectronic Attributes

Spec No	Eff	W _{peak}	I _{max}	V _{max}	I _{short}	V _{open}
1.55 W-peak	< ... 10.0	< ...1.55	< ...3.20	0.485	4.04±5%	0.590 ±5%
1.63 W-peak	10.0...11.0	1.63±0.08	3.20...3.48	0.490	4.31±5%	0.590 ±5%
1.78 W-peak	11.0...12.0	1.78±0.08	3.48...3.78	0.492	4.71±5%	0.590 ±5%
1.94 W-peak	12.0...13.0	1.94±0.08	3.78...4.09	0.493	5.02±5%	0.590±5%
2.09 W-peak	13.0...14.0	2.09±0.08	4.09...4.38	0.495	5.24±5%	0.600±5%
2.21 W-peak	14.0...14.5	2.21±0.04	4.38...4.51	0.498	5.33±5%	0.602±5%
2.29 W-peak	14.5...15.0	2.29±0.04	4.51...4.65	0.500	5.43±5%	0.603±5%
2.36 W-peak	15.0...15.5	2.36±0.04	4.65...4.76	0.505	5.52±5%	0.605±5%
2.44 W-peak	15.5...16.0	2.44±0.04	4.76...4.88	0.508	5.62±5%	0.605±5%
2.52 W-peak	16.0...16.5	2.52±0.04	4.88...5.01	0.510	5.64±5%	0.605±5%
2.60 W-peak	16.5...17.0	2.60±0.04	5.01...5.15	0.512	5.73±5%	0.605±5%
2.67 W-peak	17.0...17.5	2.67±0.04	5.15...5.30	0.512	5.85±5%	0.610±5%
2.75 W-peak	17.5...18.0	2.75±0.04	5.30...5.42	0.515	5.86±5%	0.610±5%
2.83 W-peak	18.0...18.5	2.83±0.04	5.42...5.57	0.515	6.03±5%	0.610±5%

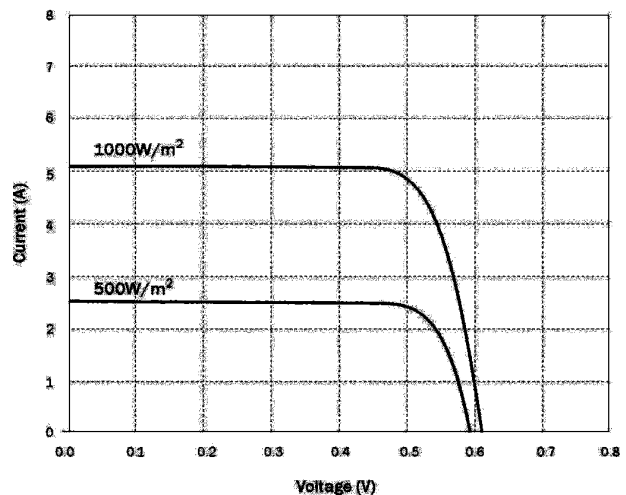
Note:

W-peak Tolerance around 5% at the spec with W-peak up 1.63 to 2.09, also around 2% at the spec with W-peak up 2.29 to 2.83

a. Spectral Response



b. I-V curve



Workmanship – ‘QC’ Quality Criteria

Grade, QC	Chip, cm ²	Crack	Fake, LxD mm	Spot, mm	Line Breakage	Mis-Align, mm
A	No	No	Minor 3x1	Minor 5	Minor 2mm, 5 Lines	Minor 1
B	No	No	Minor 5x1	Major 5	Major 2mm, 5 Lines	Major 1
C	2.3	Yes	Major 5x1			

Note:

Grade **A** is Extra Standard Quality; Grade **B** is Standard Quality

Note

Please kindly note that the cells are classified into five major colors as stated in the product catalog, including Dark Blue, Purple, Brown, Light Blue, and Gray. Cells with mixed color of Dark Blue, Purple, and Brown or Dark Blue and Light Blue are also within the standard. After module encapsulation, the color difference will be significantly reduced; therefore, it won't affect the color uniformity of the module. Each carton box has a label to remark the color of the cells inside. When putting the cells into production of PV modules, please DO NOT mix cells with different colors in one module, otherwise it may affect the color uniformity of one single module.

Avoid handlings happened as follows because they may cause electrical or soldering performance degradation.

- Handling with hands without plastic gloves
- Avoiding careless and violent handling since this causes damage or cracks
- Contacting with corrosive chemicals or gases
- Scrubbing the surface

Keeping away from corrosive chemicals or gases and keeping in the storage room with temperature at around 20 °C. Do not expose cells to the air. It is recommended to use the cells ASAP after unpacking.

This product is not humidity-resistant so it needs to be covered with glass, waterproof films and resin to maintain the long- term reliability.

The goods are packed into the container with suitable quality, which protects them from damage during the transportation.

- Every 50 cells are sealed by Shrinkable Film
- Every 20 Shrinkable Film packages (1000 pcs) are put in one Carton Box

The product made in ASEAN (Taiwan). Always the products specialize & standardize for EC. The material hasn't healths hazard to regulation Restriction of Hazardous Substances Directive (RoHS) 2002/95/EC. It restricts the use of the following substances: (1) Plumbum, (2) Mercury, (3) Cadmium, (4) Hexavalent Chromium. We certificate as for the substance: hazardous substances wasn't entered in the material.

Resume

It's super thin solar cell with thickness 270±30 micron, that relates to spec nos: 1.94 W-peak; 2.09 W-peak etc, as follows. Watt-Peak, Wp: 1.94; 2.09 etc @STC; W-peak Tolerance around 5% at the spec with W-peak up 1.63 to 2.09, also around 2% at the spec with W-peak up 2.29 to 2.83; Linear Tolerance: ±1.0 mm diag, ±0.3 mm size. We send you the test report and the datasheet to ea. deliveries. The design specialize to the standard PV-tech, Power engineering, Eco-energy.