

S-series Solar Module

420-445W

HIGH EFFICIENCY SHINGLED MODULE



Shingling Technology

- Incorporating Shingling technology and flexible adhesive, give rise to high density layout



Aesthetic Appearance

- Cells are densely packed, free of tabbing ribbons, and have uniform appearance



Eco-friendly

- No fluorine and low lead material adopted, achieves eco-friendly PV design



Trustworthy Quality and Reliability

- Soldering-free technology eliminates mechanical stress and potential microcrack
- Parallel circuit design lowers hot spot risk



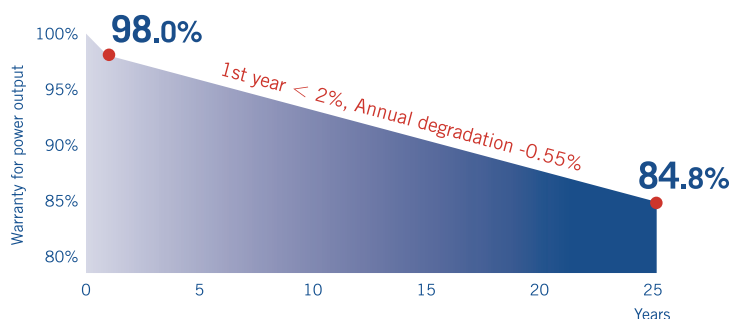
Lower BOS cost & Higher ROI

- Higher module efficiency reduces BOS cost and improve long term investment return

Linear Power Output Warranty

15 15-year warranty for materials

25 25-year warranty for linear power output



Quality Management System and Product Certification



IEC61215/61730, IEC62804(PID), IEC61701(Salt)
 IEC62716(Ammonia), IEC60068-2-68(Sand)
 ISO 9001:2015/ quality management system
 ISO 14001:2015/ environmental management system
 ISO 45001:2018/occupation health safety management system
 ISO 50001:2011/energy management system
 IEC TS 62941-2016/PV industry quality management system

Electrical Characteristics (STC)

Module Type: TP420-445PMB7-46SC		445	440	435	430	425	420
Maximum Power - Pm	[W]	445	440	435	430	425	420
Open Circuit Voltage - Voc	[V]	43.8	43.7	43.6	43.5	43.4	43.3
Short Circuit Current-Isc	[A]	13.01	12.9	12.79	12.68	12.56	12.46
Maximum Power Voltage-Vm	[V]	36.4	36.3	36.2	36.1	36	35.9
Maximum Power Current-Im	[A]	12.23	12.13	12.02	11.92	11.81	11.71
Module Efficiency-η	[%]	21.4	21.1	20.9	20.7	20.4	20.2

Electrical Characteristics at NMOT

Maximum Power-Pm	[W]	335	331	328	324	320	316
Open Circuit Voltage-Voc	[V]	41.8	41.7	41.6	41.5	41.4	41.3
Short Circuit Current-Isc	[A]	10.5	10.41	10.32	10.23	10.14	10.05
Maximum Power Voltage-Vm	[V]	34.7	34.6	34.5	34.4	34.3	34.2
Maximum Power Current-Im	[A]	9.66	9.57	9.49	9.41	9.32	9.24

Note:
 1. Standard Test Conditions (STC): irradiance 1000 W/m²; AM 1.5; ambient temperature 25°C according to EN 60904-3;
 2. Nominal Module Operating Temperature (NMOT): Irradiance 800W/m²; wind speed 1m/s; ambient temperature 20°C.
 3. Tolerance of Pm: 0~+5W, Measuring uncertainty of power: ±3%. Performance deviation of Voc [V], Isc [A], Vm [V] and Im [A]: ±3%.

Mechanical Characteristics

Dimensions	1899×1096×30 mm
Weight	21.8kg
Front glass	tempered glass, 3.2mm
Frame	Anodized aluminum profile
Cells	Mono-crystalline solar cell
Cell Orientation	320 (64×5)
Junction Box	IP68, two diodes
Cable	4mm ² ,+300mm/-1000mm(Vertical), +220mm/-180 mm (Horizontal)
Packaging	36pcs/box;864pcs/40'container;1296pcs/flat car

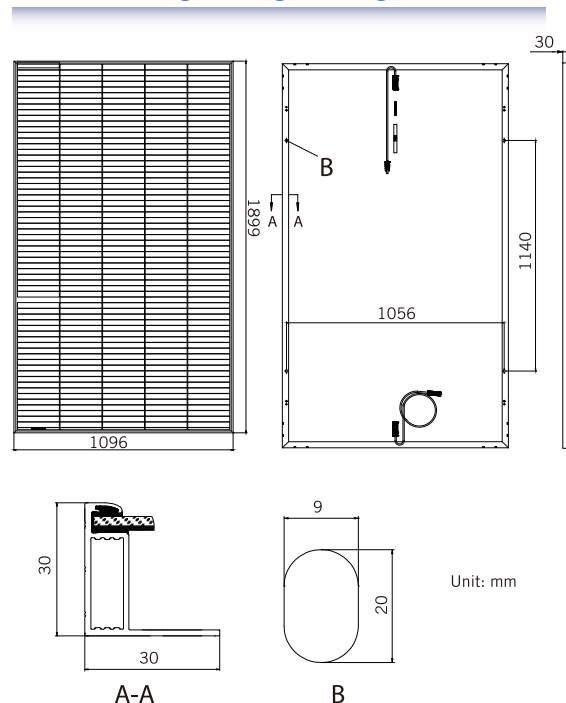
Temperature Parameters

NMOT	42.30°C (±2°C)
Temperature Coefficient of Voc	-0.27%/°C
Temperature Coefficient of Isc	+0.04%/°C
Temperature Coefficient of Pm	-0.34%/°C

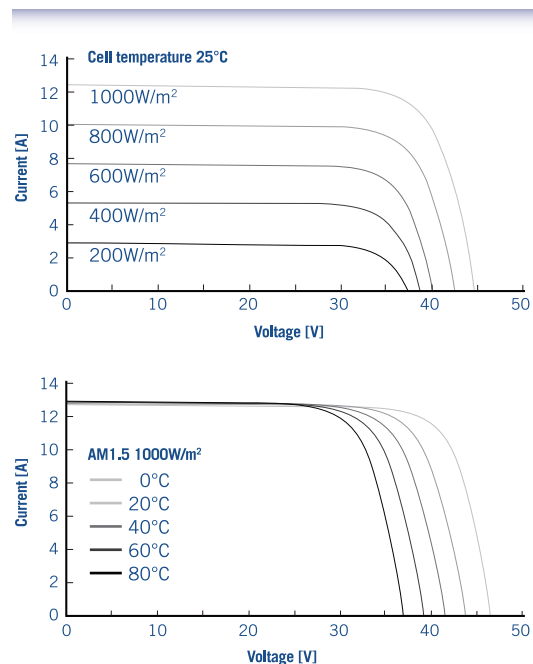
Maximum Ratings

Maximum System Voltage	[V]	DC1500(IEC)
Series Fuse Rating	[A]	25
Maximum Surface Load Capacity	[Pa]	Front 5400/Back 2400
Temperature Range	[C]	-40~+85
Withstanding Hail	[A]	Maximum diameter of 25mm with impact speed of 23m/s

Engineering Drawings



I-V Curve



Declaration: With the technical progress and product updates, there exists a deviation between the technical parameter of the Topco Solar's future products and the technical parameter in this specification. The Topco Solar reserves the right to adjust the technical parameter at any time without notifying the customers. Topco Solar reserves the final right of interpretation.