

# 310 Watt MONOCRYSTALLINE SOLAR MODULE



### Features



**High power output**  
Compared to normal module, the power output can increase 5-10W



**High PID resistant**  
Advanced cell technology and qualified materials lead to high resistance to PID



**Excellent weak light performance**  
More power output in weak light condition, such as haze, cloudy, and morning



**Lower hot spots**  
Reduce the hot spots and minimize panel degradation



**Extended wind and snow load tests**  
Module certified to withstand extreme wind (3800 Pascal) and snow loads (5400 Pascal) \*



**Withstanding harsh environment**  
Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline

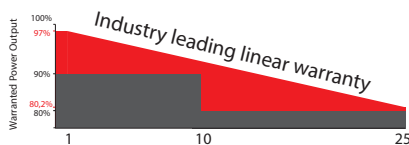
Certifications and standards:  
IEC 61215, IEC 61730, conformity to CE



### Trust Suntech to Deliver Reliable Performance Over Time

- World-class manufacturer of crystalline silicon photovoltaic modules
- Unrivaled manufacturing capacity and world-class technology
- Rigorous quality control meeting the highest international standards: ISO 9001: 2008, ISO 14001: 2004 and ISO17025: 2005
- Regular independently checked production process from international accredited institute/company
- Tested for harsh environments (salt mist, ammonia corrosion and sand blowing testing: IEC 61701, IEC 62716, DIN EN 60068-2-68)\*\*\*
- Long-term reliability tests
- 2 x 100% EL inspection ensuring defect-free modules

### Industry-leading Warranty based on nominal power



- 97% in the first year, thereafter, for years two (2) through twenty-five (25), 0.7% maximum decrease from MODULE's nominal power output per year, ending with the 80.2% in the 25th year after the defined WARRANTY STARTING DATE.\*\*\*\*
- 12-year product warranty
- 25-year linear performance warranty

### Special Cell Design



The unique cell design leads to reduced electrodes resistance and smaller current, thus enables higher fill factor and decrement of CTM losses. Meanwhile, it can reduce losses of mismatch and cell wear, and increase total reflection.

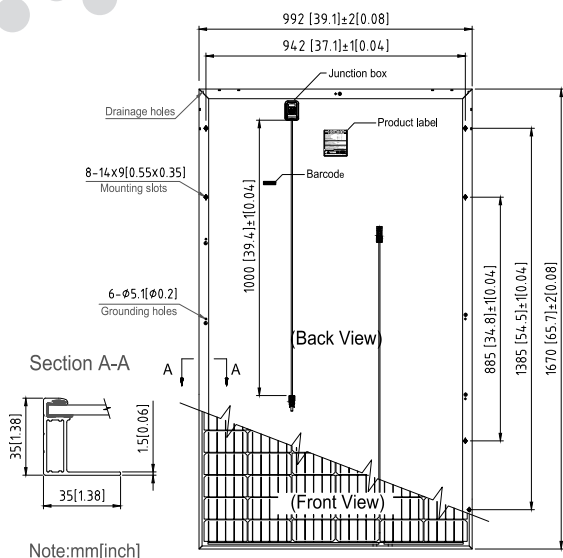
### IP68 Rated Junction Box



The Suntech IP68 rated junction box ensures an outstanding waterproof level, supports installations in all orientations and reduces stress on the cables. High reliable performance, low resistance connectors ensure maximum output for the highest energy production.

\* Please refer to Suntech Standard Module Installation Manual for details. \*\*WEEE only for EU market.

\*\*\* Please refer to Suntech Product Near-coast Installation Manual for details. \*\*\*\* Please refer to Suntech Product Warranty for details.



### Electrical Characteristics

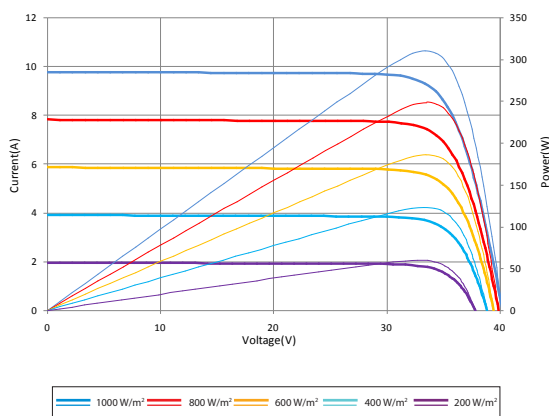
STC	STP310S-20/Wfh	STP305S-20/Wfh	STP300S-20/Wfh
Maximum Power at STC (Pmax)	310W	305 W	300 W
Optimum Operating Voltage (Vmp)	33.0 V	32.7 V	32.4 V
Optimum Operating Current (Imp)	9.40 A	9.33 A	9.26 A
Open Circuit Voltage (Voc)	40.2 V	40.0 V	39.9 V
Short Circuit Current (Isc)	9.79 A	9.68 A	9.55 A
Module Efficiency	18.7%	18.4%	18.1%
Operating Module Temperature	-40 °C to +85 °C		
Maximum System Voltage	1000 V DC (IEC)		
Maximum Series Fuse Rating	20 A		
Power Tolerance	0/+5 W		

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5;  
Best in Class AAA solar simulator (IEC 60904-9) used, power measurement uncertainty is within +/- 3%

NOCT	STP310S-20/Wfh	STP305S-20/Wfh	STP300S-20/Wfh
Maximum Power at NOCT (Pmax)	229.1 W	225.6 W	222.7 W
Optimum Operating Voltage (Vmp)	30.6 V	30.5 V	30.5 V
Optimum Operating Current (Imp)	7.49 A	7.40 A	7.31 A
Open Circuit Voltage (Voc)	37.0 V	36.8 V	36.7 V
Short Circuit Current (Isc)	7.93 A	7.84 A	7.73 A

NOCT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20 °C, AM=1.5, wind speed 1 m/s;  
Best in Class AAA solar simulator (IEC 60904-9) used, power measurement uncertainty is within +/- 3%

### Current-Voltage & Power-Voltage Curve (310S-20)



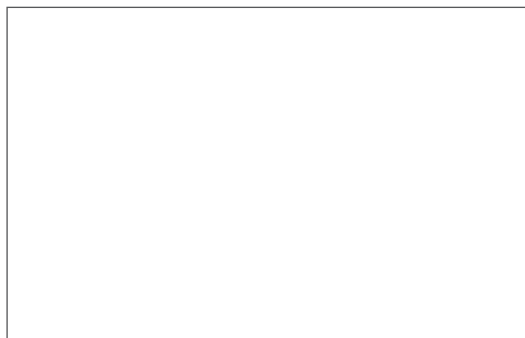
### Temperature Characteristics

Nominal Operating Cell Temperature (NOCT)	45±2°C
Temperature Coefficient of Pmax	-0.41 %/°C
Temperature Coefficient of Voc	-0.34 %/°C
Temperature Coefficient of Isc	0.060 %/°C

### Mechanical Characteristics

Solar Cell	Monocrystalline silicon 6 inches
No. of Cells	120 (6 × 20)
Dimensions	1670 × 992 × 35mm (65.7 × 39.1 × 1.4 inches)
Weight	18.5 kgs (40.8 lbs.)
Front Glass	3.2 mm (0.13 inches) tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP68 rated (3 bypass diodes)
Output Cables	TUV (2Pfg1169:2007) 4.0 mm <sup>2</sup> (0.006 inches <sup>2</sup> ), symmetrical lengths (-) 1000mm (39.4 inches) and (+) 1000 mm (39.4 inches)
Connectors	MC4 compatible

### Dealer information



### Packing Configuration

Container	20' GP	40' HC
Pieces per pallet	30	30
Pallets per container	6	26
Pieces per container	180	780

Information on how to install and operate this product is available in the installation instruction. All values indicated in this data sheet are subject to change without prior announcement. The specifications may vary slightly. All specifications are in accordance with standard EN 50380. Color differences of the modules relative to the figures as well as discolorations of/in the modules which do not impair their proper functioning are possible and do not constitute a deviation from the specification.