

Stand the Test of Time



2022
Product Manual

Contents

- 01 Company Introduction
- 01 Global Network
- 02 Suntech Trustworthy Quality

- 03 Half-cell Technology
- 04 MBB Technology
- 05 Bifacial Technology
- 06 N-type Technology

- 09 Ultra S Series
- 17 Ultra V Series
- 25 Ultra V Pro Series
- 33 Ultra X Series

- 37 Project Manual



Global Leading PV Manufacturer

Wuxi Suntech, founded in 2001, as a famous photovoltaic manufacturer in the world, is devoted to the R&D and the production of crystalline silicon solar cells and modules for 21 years. The company has its sales areas spread all over more than 100 countries and regions in the world, and the cumulative historical shipments exceeded 30 GW. We aim to become the most trusted PV company through continuous innovation and excellent management.

Global Network

Suntech's business footprint covers more than 100 countries around the world, with more than 1500 industry-leading partners.



Suntech Trustworthy Quality

Excellent reliability

Suntech is fully certified by professional third party testing organizations. The modules can adapt to harsh climate environment.



Comprehensive quality assurance system

Suntech provides a 12-year product warranty, and a 25-year performance warranty for all products (a 30-year warranty for double glass products).

Through a comprehensive pre-sales and after-sales service system, Suntech provides high-quality service to global customers.

Suntech warranties are backed for projects since 2014 with a leading insurance company to provide safety to the investor and financing parties.



Globalization & Localization

Suntech adheres the core market concept of "Globalization & Localization". EuPD Research rated Suntech as a "Top Brand PV" for many years.



Delicacy management

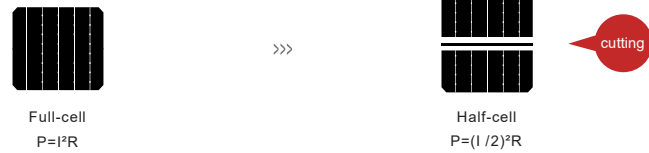
Guaranteed Quality: 52 steps quality control and inspection process

Rigorous Control: FQC 100% appearance inspection, OBA appearance spot inspection, OQC delivery inspection

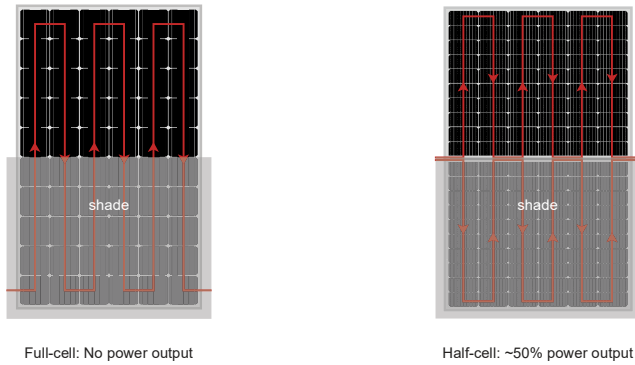
Management System: Certification of ISO9001 quality system, ISO14001 environmental management system, ISO45001 occupational health and safety management system, SA8000 social responsibility standards, IEC TS 62941 standard system

Half-cell Technology

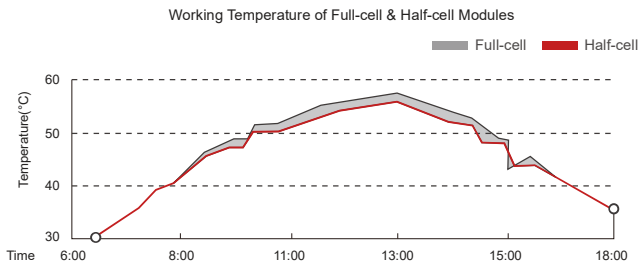
Reducing current and loss: Current density is reduced by 50%, internal power loss is reduced by 25%, and rated output power is increased.



Low shading loss: The split-type module design effectively reduces the current mismatch caused by shadow, and the power output is enhanced.



Lower working temperature: The working temperature of the half-cell modules is 2-3°C lower than the full-cell modules, greatly ensuring the safe working environment.



MBB Technology

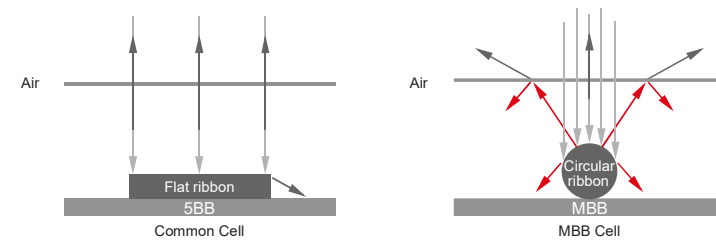
Reducing string and increasing energy: An increase in the number of busbar shortens the lateral current collection path, decreases the component R_s (series resistance), and increases the output power.



Reducing busbar loss: The busbars are more densely distributed, reducing loss.

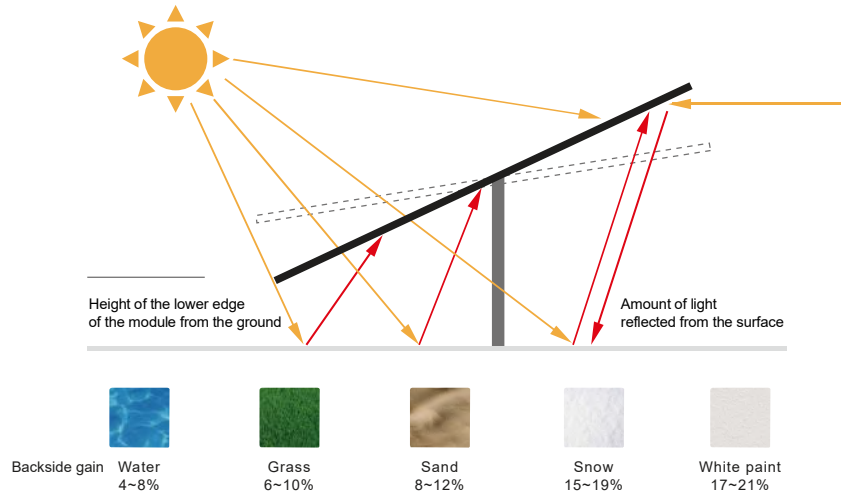


Improving efficiency: The circular ribbon reduces the shading area and repeatedly reflects the incident light to enhance the power generation.



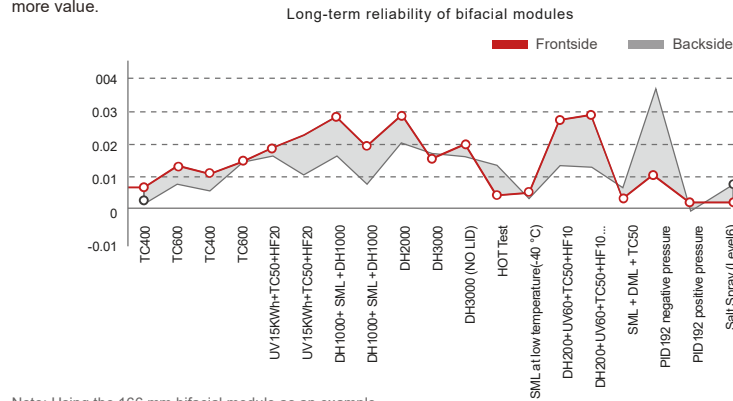
Bifacial Technology

Double-sided generation, powerfully energy boost: Fully utilizing the reflection and scattering of light, applying to highly reflective scenes such as water, sand, grass and white painted ground. With various types of brackets, more power is obtained, under lower kilowatt-hour costs.



Note: Using the tracker as an example

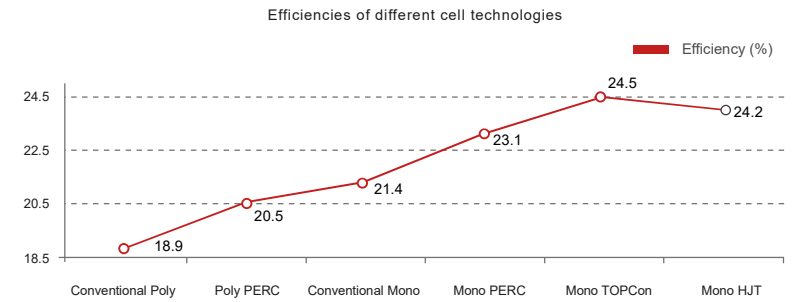
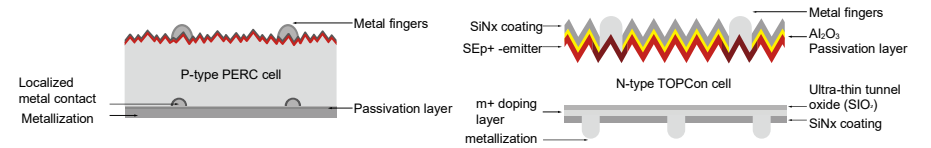
High reliability: Bifacial modules demonstrate superior long-term reliability, higher quality, and create more value.



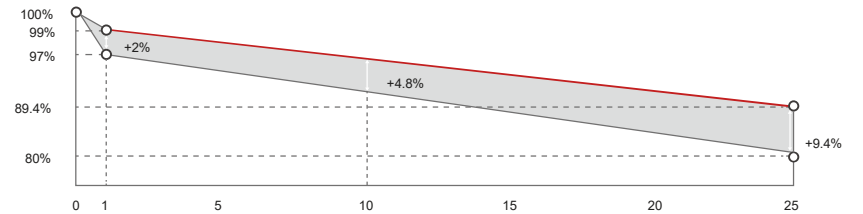
Note: Using the 166 mm bifacial module as an example

N-type Technology

Multi-layer energy enhancement and efficiency iteration: TOPCon cell adopts a new surface passivation technology, which effectively reduces surface compound and metal contact compound, and has an area for efficiency improvement, and the efficiency of Suntech N-type cell has exceeded 24.5%.



Excellent warranty: Compared with conventional modules, TOPCon modules have 2% lower first-year attenuation and 0.31% lower annual attenuation than conventional modules, resulting in higher power generation and higher revenue for customers.



Ultra Series

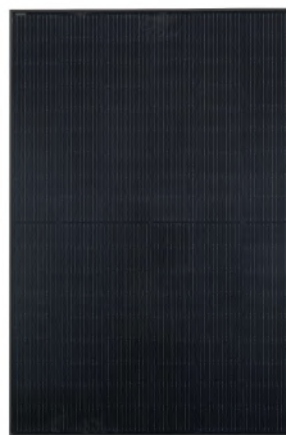
Suntech has Ultra S, Ultra V, and Ultra X series, which differs in wafer sizes respectively from 166mm to 182mm and 210mm. The Ultra V Pro series is a new upgrade which is adopted N-type 182mm wafer with TOPCon technology instead of PERC to show a superior power efficiency more than 24.5% .



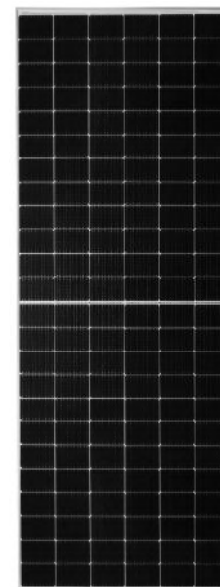
385 W+
Ultra S



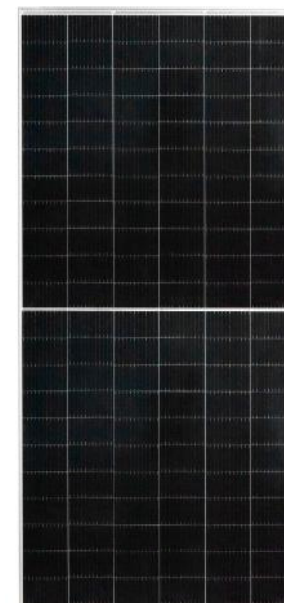
460 W+
Ultra S



430 W+
Ultra V



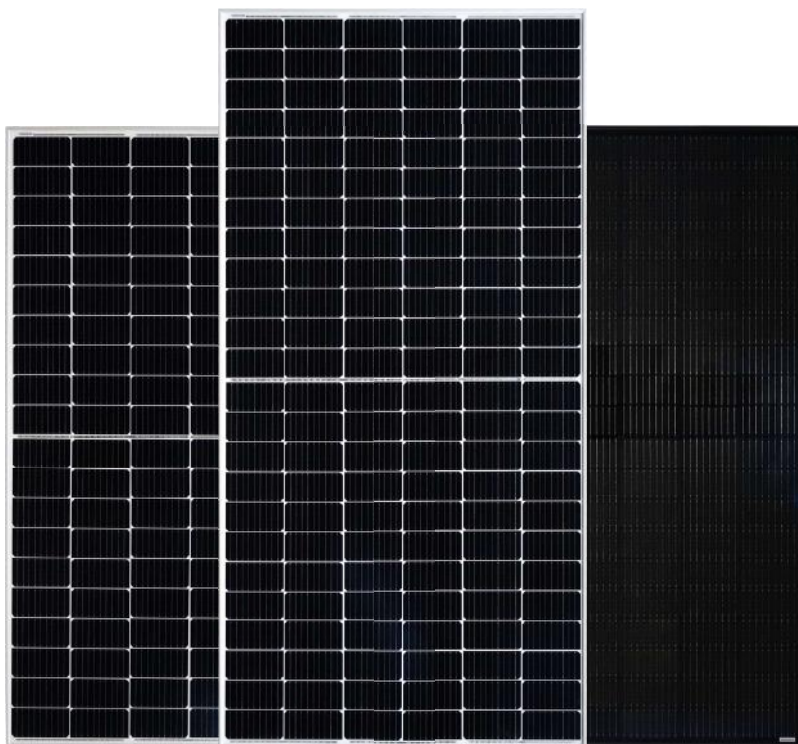
570 W+
Ultra V



670 W+
Ultra X

Ultra S series

Efficient and mature performance



Introduction

The Ultra S module adopts 166mm size wafers and combines mainstream half-cell and MBB technologies. The backside material is available with glass or transparent backsheet for enhanced load capacity and is more suitable for extreme weather scenarios.

Features



Tracker



2400/5400Pa



Linear Performance
Warranty



Lower Working
Temperature



Higher Output



Optimize Circuit
And Decrease
Internal Loss



Harsh
Environment



Distributed
Junction Box

Basic Products

| Series | Module type | Power / w | No.of cells / pcs | Dimensions / mm | Weight / kg |
|---------|-------------|-----------|-------------------|-----------------|-------------|
| | B60-Wnh | 365-385 | 120 | 1756×1039×35 | 20.3 |
| Ultra S | B72-Vnh | 440-460 | 144 | 2095×1039×35 | 24.5 |
| | B72-Pnh+ | 435-455 | 144 | 2096×1040×30 | 28.1 |

Note: See datasheet for details.

Ultra S mini

HALF-CELL MONOFACIAL MODULE

TYPE: STPXXXS - B60/Wnh



POWER OUTPUT **MAX EFFICIENCY**
365-385W **21.1%**

Features



High module conversion efficiency

Module efficiency up to **21.1%** achieved through advanced cell technology and manufacturing process



Lower operating temperature

Lower operating temperature and temperature coefficient increases the power output



Suntech current sorting process

Up to **2%** power loss caused by current mismatch could be diminished by current sorting technique to maximize system power output



Extended wind and snow load tests

Module certified to withstand extreme wind (**3800** Pascal) and snow loads (**5400** Pascal) *



Excellent weak light performance

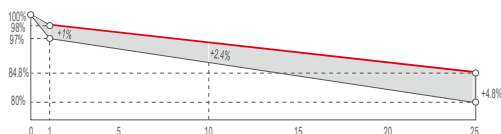
More power output in weak light condition, such as cloudy, morning and sunset



Withstanding harsh environment

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

Industry-leading Warranty**



- ◆ First year power degradation: 2%
- ◆ Annual degradation: 0.55%
- ◆ Product warranty: 12 years
- ◆ Linear warranty: 25 years

Certifications and Standards

CE IEC 61730 IEC 61215
 SA 8000 Social Responsibility Standards
 ISO 9001 Quality Management System
 ISO 14001 Environment Management System
 ISO 45001 Occupational Health and Safety
 IEC TS 62941 Guideline for module design qualification and type approval

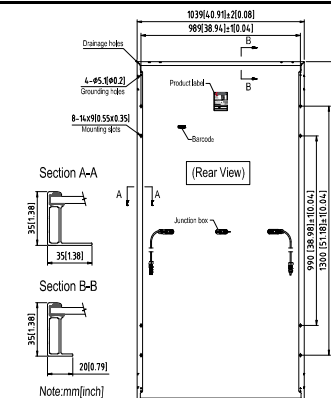


*** WEEE only for EU market.
 **** Suntech reserves the right to the final interpretation of the warranty by Munich RE.

Ultra S STPXXXS - B60/Wnh 365-385W

Mechanical Characteristics

| | |
|------------------------------|---|
| Solar Cell | Monocrystalline silicon 166mm |
| No. of Cells | 120 (6 × 20) |
| Dimensions | 1756 × 1039 × 35mm (69.1 × 40.9 × 1.4inches) |
| Weight | 20.3kgs (44.8lbs.) |
| Front Glass | 3.2mm (0.126inches) fully tempered glass |
| Output Cables | 4.0mm ² (-) 350mm (+) 160mm in length or customized length |
| Junction Box | IP68 rated (3 bypass diodes) |
| Operating Module Temperature | -40 °C to +85 °C |
| Maximum System Voltage | 1000 / 1500V DC (IEC) |
| Maximum Series Fuse Rating | 20A |
| Power Tolerance | 0/+5W |



Electrical Characteristics

| Module Type | STP 385 S-B60/Wnh | | STP 380 S-B60/Wnh | | STP 375 S-B60/Wnh | | STP 370 S-B60/Wnh | | STP 365 S-B60/Wnh | |
|-----------------------------------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|
| | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Testing Condition | | | | | | | | | | |
| Maximum Power (Pmax/W) | 385 | 290.9 | 380 | 286.3 | 375 | 281.9 | 370 | 278.2 | 365 | 274.3 |
| Optimum Operating Voltage (Vmp/V) | 34.9 | 32.4 | 34.7 | 32.2 | 34.5 | 32.2 | 34.3 | 32.0 | 34.1 | 31.8 |
| Optimum Operating Current (Imp/A) | 11.04 | 8.99 | 10.96 | 8.92 | 10.87 | 8.76 | 10.79 | 8.69 | 10.71 | 8.62 |
| Open Circuit Voltage (Voc/V) | 41.5 | 39.0 | 41.3 | 38.9 | 41.1 | 38.9 | 40.9 | 38.7 | 40.7 | 38.5 |
| Short Circuit Current (Isc/A) | 11.72 | 9.46 | 11.64 | 9.39 | 11.57 | 9.24 | 11.49 | 9.17 | 11.42 | 9.10 |
| Module Efficiency (%) | 21.1 | | 20.8 | | 20.6 | | 20.3 | | 20.0 | |

STC: Irradiance 1000 W/m², module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s; Tolerance of Pmax is within +/- 3%.

Temperature Characteristics

| | |
|---|------------|
| Nominal Module Operating Temperature (NMOT) | 42 ± 2 °C |
| Temperature Coefficient of Pmax | -0.36%/°C |
| Temperature Coefficient of Voc | -0.304%/°C |
| Temperature Coefficient of Isc | 0.050%/°C |

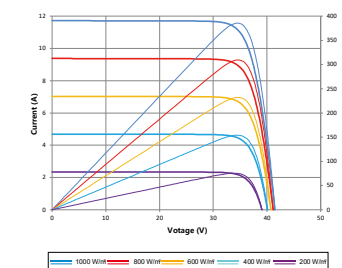
Packing Configuration

| | | |
|--------------------------|------------------|--------|
| Container | 20' GP | 40' HC |
| Pieces per pallet | 31 | 31 |
| Pallets per container | 6 | 26 |
| Pieces per container | 186 | 806 |
| Packaging box dimensions | 1786×1130×1203mm | |
| Packaging box weight | 679kg | |

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 the modules which do not impair their proper functioning are possible and do not constitute a deviation from the specification.

Graphs

Current-Voltage & Power-Voltage Curve (385S)



* Please refer to Suntech Standard Module Installation Manual for details.
 ** Please refer to Suntech Limited Warranty for details.

Ultra S

HALF-CELL MONOFACIAL MODULE

TYPE: STPXXXS - B72/Vnh



POWER OUTPUT **440-460W** MAX EFFICIENCY **21.1%**

Features



High module conversion efficiency
Module efficiency up to **21.1%** achieved through advanced cell technology and manufacturing process



Lower operating temperature
Lower operating temperature and temperature coefficient increases the power output



Suntech current sorting process
Up to **2%** power loss caused by current mismatch could be diminished by current sorting technique to maximize system power output



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

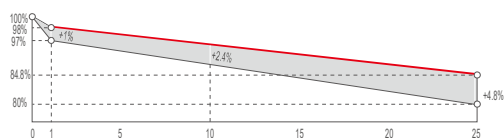


Excellent weak light performance
More power output in weak light condition, such as cloudy, morning and sunset



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

Industry-leading Warranty***



- ◆ First year power degradation: 2%
- ◆ Annual degradation: 0.55%
- ◆ Product warranty: 12 years
- ◆ Linear warranty: 25 years

Certifications and Standards

CE IEC 61730 IEC 61215
SA 8000 Social Responsibility Standards
ISO 9001 Quality Management System
ISO 14001 Environment Management System
ISO 45001 Occupational Health and Safety
IEC TS 62941 Guideline for module design qualification and type approval

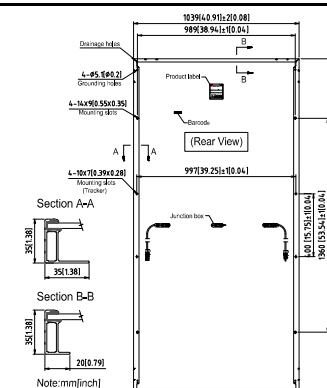


Ultra S STPXXXS - B72/Vnh 440-460W

Mechanical Characteristics

| | |
|------------------------------|---|
| Solar Cell | Monocrystalline silicon 166mm |
| No. of Cells | 144 (6 × 20) |
| Dimensions | 2095 × 1039 × 35mm (82.5 × 40.9 × 1.4inches) |
| Weight | 24.5kgs (54.0lbs.) |
| Front Glass | 3.2mm (0.126inches) fully tempered glass |
| Output Cables | 4.0mm ² (-) 350mm (+) 160mm in length or customized length |
| Junction Box | IP68 rated (3 bypass diodes) |
| Operating Module Temperature | -40 °C to +85 °C |
| Maximum System Voltage | 1500V DC (IEC) |
| Maximum Series Fuse Rating | 20A |
| Power Tolerance | 0/+5W |

For tracker installation, please turn to Suntech for mechanical load information.



Electrical Characteristics

| Module Type | STP 460 S-B72/Vnh | | STP 455 S-B72/Vnh | | STP 450 S-B72/Vnh | | STP 445 S-B72/Vnh | | STP 440 S-B72/Vnh | |
|-----------------------------------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|
| | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Maximum Power (Pmax/W) | 460 | 346.9 | 455 | 343.1 | 450 | 339.4 | 445 | 335.8 | 440 | 332.7 |
| Optimum Operating Voltage (Vmp/V) | 41.8 | 38.5 | 41.6 | 38.4 | 41.4 | 38.2 | 41.2 | 38.0 | 41.0 | 37.8 |
| Optimum Operating Current (Imp/A) | 11.01 | 9.00 | 10.94 | 8.94 | 10.87 | 8.89 | 10.81 | 8.84 | 10.74 | 8.78 |
| Open Circuit Voltage (Voc/V) | 49.6 | 46.5 | 49.4 | 46.3 | 49.2 | 46.2 | 49.0 | 46.0 | 48.8 | 45.8 |
| Short Circuit Current (Isc/A) | 11.74 | 9.47 | 11.67 | 9.42 | 11.61 | 9.37 | 11.54 | 9.31 | 11.47 | 9.25 |
| Module Efficiency (%) | 21.1 | | 20.9 | | 20.7 | | 20.4 | | 20.2 | |

STC: Irradiance 1000 W/m², module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s; Tolerance of Pmax is within +/- 3%.

Temperature Characteristics

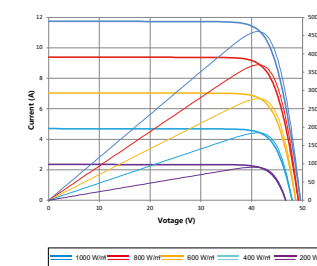
| | |
|---|------------|
| Nominal Module Operating Temperature (NMOT) | 42 ± 2 °C |
| Temperature Coefficient of Pmax | -0.36%/°C |
| Temperature Coefficient of Voc | -0.304%/°C |
| Temperature Coefficient of Isc | 0.050%/°C |

Packing Configuration

| | | |
|--------------------------|------------------|--------|
| Container | 20' GP | 40' HC |
| Pieces per pallet | 31 | 31 |
| Pallets per container | 5 | 22 |
| Pieces per container | 155 | 682 |
| Packaging box dimensions | 2125×1130×1205mm | |
| Packaging box weight | 814kg | |

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 the modules which do not impair their proper functioning are possible and do not constitute a deviation from the specification.

Graphs Current-Voltage & Power-Voltage Curve (460S)



* Please refer to Suntech Standard Module Installation Manual for details.
** Please refer to Suntech Limited Warranty for details.

*** WEEE only for EU market.
**** Suntech reserves the right to the final interpretation of the warranty by Munich RE.

Ultra S

HALF-CELL BIFACIAL MODULE

TYPE: STPXXXS - B72/Pnh+



POWER OUTPUT **MAX EFFICIENCY**
435-455W **20.9%**

Features



High module conversion efficiency

Module efficiency up to **20.9%** achieved through advanced cell technology and manufacturing process



Lower operating temperature

Lower operating temperature and temperature coefficient increases the power output



Suntech current sorting process

Up to **2%** power loss caused by current mismatch could be diminished by current sorting technique to maximize system power output



Extended wind and snow load tests

Module certified to withstand extreme wind (**2400** Pascal) and snow loads (**5400** Pascal) *



Excellent weak light performance

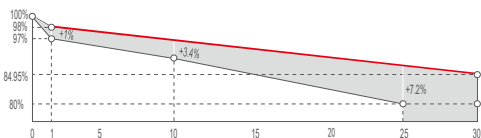
More power output in weak light condition, such as cloudy, morning and sunset



Withstanding harsh environment

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

Industry-leading Warranty**



- ◆ First year power degradation: 2%
- ◆ Annual degradation: 0.45%
- ◆ Product warranty: 12 years
- ◆ Linear warranty: 30 years

Certifications and Standards

CE IEC 61730 IEC 61215
 SA 8000 Social Responsibility Standards
 ISO 9001 Quality Management System
 ISO 14001 Environment Management System
 ISO 45001 Occupational Health and Safety
 IEC TS 62941 Guideline for module design qualification and type approval



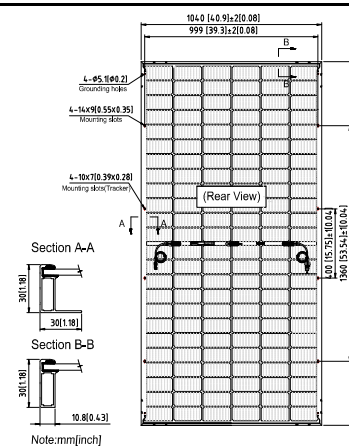
Ultra S

STPXXXS - B72/Pnh+ 435-455W

Mechanical Characteristics

| | |
|------------------------------|--|
| Solar Cell | Monocrystalline silicon 166mm |
| No. of Cells | 144 (6 × 24) |
| Dimensions | 2096 × 1040 × 30mm (82.5 × 40.9 × 1.2inches) |
| Weight | 28.1kgs (61.9lbs.) |
| Front\ Back Glass | 2.0+2.0mm (0.079+ 0.079inches) semi-tempered glass |
| Output Cables | 4.0mm ² (-) 350mm and (+) 160mm in length or customized length |
| Junction Box | IP68 rated (3 bypass diodes) |
| Operating Module Temperature | -40 °C to +85 °C |
| Maximum System Voltage | 1500V DC (IEC) |
| Maximum Series Fuse Rating | 20A |
| Power Tolerance | 0/+5W |
| Refer. Bifaciality Factor | (70 ± 5)% |
| Packing Configuration | Packaging box dimensions (mm) : 2125×1130×1205 Packaging box weight (kg) : 1067 36 Pieces per pallet 180 Pieces per container / 20' GP792 Pieces per container / 40' HC |

For tracker installation, please turn to Suntech for mechanical load information.



Electrical Characteristics

| Module Type | STP455 S-B72/Pnh+ | | STP450 S-B72/Pnh+ | | STP445 S-B72/Pnh+ | | STP440 S-B72/Pnh+ | | STP435 S-B72/Pnh+ | |
|-----------------------------------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|
| | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Maximum Power (Pmax/W) | 455 | 343.1 | 450 | 339.4 | 445 | 335.8 | 440 | 332.7 | 435 | 328.9 |
| Optimum Operating Voltage(Vmp/V) | 41.6 | 38.4 | 41.4 | 38.2 | 41.2 | 38.0 | 41.0 | 37.8 | 40.8 | 37.7 |
| Optimum Operating Current (Imp/A) | 10.94 | 8.94 | 10.87 | 8.89 | 10.81 | 8.84 | 10.74 | 8.78 | 10.67 | 8.73 |
| Open Circuit Voltage (Voc/V) | 49.4 | 46.3 | 49.2 | 46.2 | 49.0 | 46.0 | 45.8 | 45.8 | 45.6 | 45.7 |
| Short Circuit Current (Isc/A) | 11.67 | 9.42 | 11.61 | 9.37 | 11.54 | 9.31 | 11.47 | 9.25 | 11.40 | 9.20 |
| Module Efficiency (%) | 20.9 | | 20.6 | | 20.4 | | 20.2 | | 20.0 | |

STC: Irradiance 1000 W/m², module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s; Tolerance of Pmax is within +/- 3%.

Different Rearside Power Gain

Reference to 445S Front

| Rearside Power Gain | 5% | 15% | 25% |
|-----------------------------------|-------|-------|-------|
| Maximum Power at STC (Pmax) | 467.3 | 511.8 | 556.3 |
| Optimum Operating Voltage(Vmp/V) | 41.2 | 41.2 | 41.3 |
| Optimum Operating Current (Imp/A) | 11.35 | 12.43 | 13.51 |
| Open Circuit Voltage (Voc/V) | 49.0 | 49.0 | 49.1 |
| Short Circuit Current (Isc/A) | 12.12 | 13.27 | 14.43 |
| Module Efficiency (%) | 21.4 | 23.5 | 25.5 |

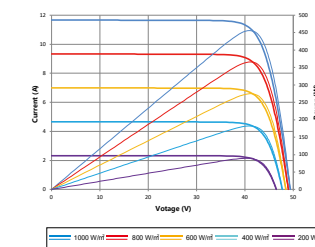
Temperature Characteristics

| | |
|---|------------|
| Nominal Module Operating Temperature (NMOT) | 42 ± 2 °C |
| Temperature Coefficient of Pmax | -0.36%/°C |
| Temperature Coefficient of Voc | -0.304%/°C |
| Temperature Coefficient of Isc | 0.050%/°C |

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.

Graphs

Current-Voltage & Power-Voltage (455S)

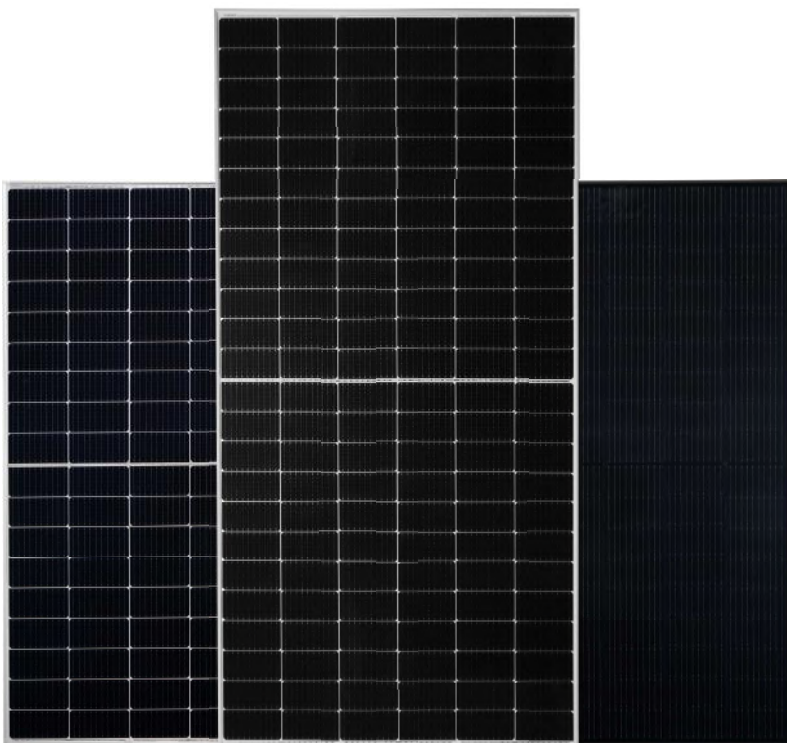


* Please refer to Suntech Standard Module Installation Manual for details.
 ** Please refer to Suntech Limited Warranty for details.

*** WEEE only for EU market.
 **** Suntech reserves the right to the final interpretation of the warranty by Munich RE.

Ultra V series

Hardcore energy and reliable technology



Introduction

The Ultra V product adopts 182mm large size wafers, and MBB and half-cell technology, which greatly shortens the current conduction distance on the fine grid by more than 50% and reduces the Rs (series resistance) loss. The Ultra V module has a higher energy density and can reach a maximum power of 550W.

Features



Tracker



2400/5400Pa



Lower BoS Cost



Lower Working Temperature



Higher Output



Optimize Circuit And Decrease Internal Loss



Ageing Resistance



Distributed Junction Box

Basic Products

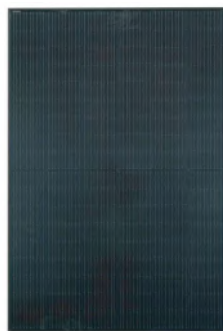
| Series | Module type | Power / w | No.of cells / pcs | Dimensions / mm | Weight / kg |
|---------|-------------|-----------|-------------------|-----------------|-------------|
| | C54-Umhb | 390-410 | 108 | 1724×1134×30 | 22.1 |
| Ultra V | C72-Vmh | 530-550 | 144 | 2279×1134×35 | 29.1 |
| | C72-Pmh+ | 530-550 | 144 | 2279×1134×30 | 32.8 |

Note: See datasheet for details.

Ultra V mini

HALF-CELL MONOFACIAL MODULE

TYPE: STPXXXS - C54/Umhb



POWER OUTPUT **MAX EFFICIENCY**
390-410W **21.0%**

Features



High module conversion efficiency

Module efficiency up to **21.0%** achieved through advanced cell technology and manufacturing process



Lower operating temperature

Lower operating temperature and temperature coefficient increases the power output



Suntech current sorting process

Up to **2%** power loss caused by current mismatch could be diminished by current sorting technique to maximize system power output



Extended wind and snow load tests

Module certified to withstand extreme wind (**3800** Pascal) and snow loads (**6000** Pascal) *



Excellent weak light performance

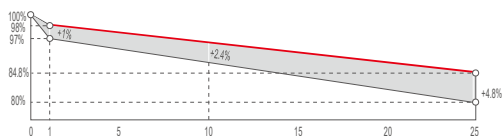
More power output in weak light condition, such as cloudy, morning and sunset



Withstanding harsh environment

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

Industry-leading Warranty



- ◆ First year power degradation: 2%
- ◆ Annual degradation: 0.55%
- ◆ Product warranty: 12years
- ◆ linear warranty: 25years

Certifications and Standards

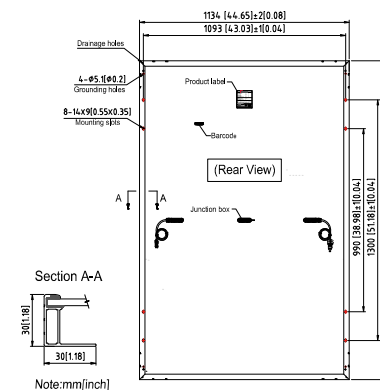
CE IEC 61730 IEC 62125
 SA 8000 Social Responsibility Standards
 ISO 9001 Quality Management System
 ISO 14001 Environment Management System
 ISO 45001 Occupational Health and Safety
 IEC TS 62941 Guideline for module design qualification and type approval



Ultra V STPXXXS - C54/Umhb 390-410W

Mechanical Characteristics

| | |
|------------------------------|---|
| Solar Cell | Monocrystalline silicon 182mm |
| No. of Cells | 108 (6 × 18) |
| Dimensions | 1724 × 1134 × 30mm (67.9 × 44.6 × 1.2inches) |
| Weight | 22.1kgs (48.7lbs.) |
| Front Glass | 3.2mm (0.126inches) fully tempered glass |
| Output Cables | 4.0mm ² (+) 350mm (+) 160mm in length or customized length |
| Junction Box | IP68 rated (3 bypass diodes) |
| Operating Module Temperature | -40 °C to +85 °C |
| Maximum System Voltage | 1000 / 1500V DC (IEC) |
| Maximum Series Fuse Rating | 25A |
| Power Tolerance | 0/+5W |



Electrical Characteristics

| Module Type | STP 410 S-C54/Umhb | | STP 405 S-C54/Umhb | | STP 400 S-C54/Umhb | | STP 395 S-C54/Umhb | | STP 390 S-C54/Umhb | |
|-----------------------------------|--------------------|-------|--------------------|-------|--------------------|-------|--------------------|-------|--------------------|-------|
| | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Maximum Power (Pmax/W) | 410 | 309.6 | 405 | 306.0 | 400 | 302.3 | 395 | 298.6 | 390 | 294.9 |
| Optimum Operating Voltage (Vmp/V) | 31.59 | 29.2 | 31.38 | 29.0 | 31.18 | 28.8 | 30.98 | 28.6 | 30.76 | 28.4 |
| Optimum Operating Current (Imp/A) | 12.98 | 10.62 | 12.91 | 10.56 | 12.83 | 10.50 | 12.76 | 10.44 | 12.69 | 10.38 |
| Open Circuit Voltage (Voc/V) | 37.45 | 35.2 | 37.24 | 35.0 | 37.04 | 34.8 | 36.84 | 34.6 | 36.62 | 34.4 |
| Short Circuit Current (Isc/A) | 13.88 | 11.16 | 13.81 | 11.10 | 13.73 | 11.04 | 13.66 | 10.98 | 13.59 | 10.93 |
| Module Efficiency (%) | 21.0 | | 20.7 | | 20.5 | | 20.2 | | 19.9 | |

STC: Irradiance 1000 W/m², module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s; Tolerance of Pmax is within +/- 3%;

Temperature Characteristics

| | |
|---|------------|
| Nominal Module Operating Temperature (NMOT) | 42 ± 2 °C |
| Temperature Coefficient of Pmax | -0.36%/°C |
| Temperature Coefficient of Voc | -0.304%/°C |
| Temperature Coefficient of Isc | 0.050%/°C |

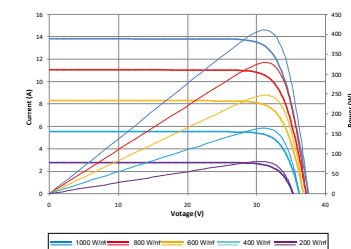
Packing Configuration

| | |
|--------------------------|------------------|
| Container | 40' HC |
| Pieces per pallet | 36 |
| Pallets per container | 26 |
| Pieces per container | 936 |
| Packaging box dimensions | 1755×1130×1269mm |
| Packaging box weight | 846kg |

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 50383. Color differences of the modules relative to the figures as well as discolorations of the modules which do not impair their proper functioning are possible and do not constitute a deviation from the specification.

Graphs

Current-Voltage & Power-Voltage Curve (410S)



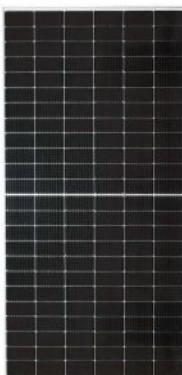
* Please refer to Suntech Standard Module Installation Manual for details.
 ** Please refer to Suntech Limited Warranty for details.

*** WEEE only for EU market.
 **** Suntech reserves the right to the final interpretation of the warranty by Munich RE.

Ultra V

HALF-CELL BIFACIAL MODULE

TYPE: STPXXXS - C72/Pmh+



POWER OUTPUT **MAX EFFICIENCY**
530-550W **21.3%**

Features



High module conversion efficiency
 Module efficiency up to **21.3%** achieved through advanced cell technology and manufacturing process



Lower operating temperature
 Lower operating temperature and temperature coefficient increases the power output



Suntech current sorting process
 Up to **2%** power loss caused by current mismatch could be diminished by current sorting technique to maximize system power output



Extended wind and snow load tests
 Module certified to withstand extreme wind (**2400** Pascal) and snow loads (**5400** Pascal) *

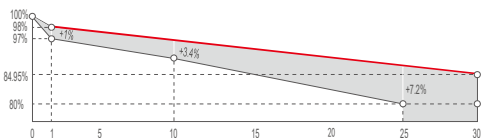


Excellent weak light performance
 More power output in weak light condition, such as cloudy, morning and sunset



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

Industry-leading Warranty**



- ◆ First year power degradation: 2%
- ◆ Annual degradation: 0.45%
- ◆ Product warranty: 12 years
- ◆ Linear warranty: 30 years

Certifications and Standards

CE IEC 61730 IEC 61215
 SA 8000 Social Responsibility Standards
 ISO 9001 Quality Management System
 ISO 14001 Environment Management System
 ISO 45001 Occupational Health and Safety
 IEC TS 62941 Guideline for module design qualification and type approval



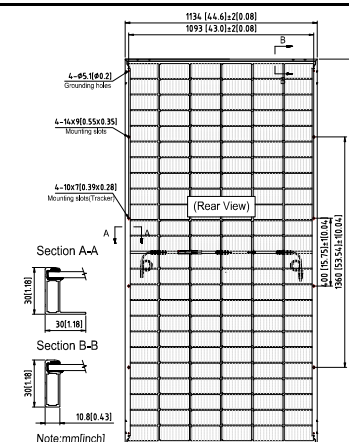
Ultra V

STPXXXS - C72/Pmh+ 530-550W

Mechanical Characteristics

| | |
|------------------------------|---|
| Solar Cell | Monocrystalline silicon 182mm |
| No. of Cells | 144 (6 × 24) |
| Dimensions | 2279 × 1134 × 30mm (89.7 × 44.6 × 1.2inches) |
| Weight | 32.8kgs (72.3lbs.) |
| Front\ Back Glass | 2.0+2.0mm (0.079+ 0.079inches) semi-tempered glass |
| Output Cables | 4.0mm ² (-) 350mm and (+) 160mm in length or customized length |
| Junction Box | IP68 rated (3 bypass diodes) |
| Operating Module Temperature | -40 °C to +85 °C |
| Maximum System Voltage | 1500V DC (IEC) |
| Maximum Series Fuse Rating | 25A |
| Power Tolerance | 0/+5W |
| Refer. Bifaciality Factor | (70 ± 5)% |
| Packing Configuration | Packaging box dimensions (mm) : 2310×1130×1269 Packaging box weight (kg) : 1245 36 Pieces per pallet 720 Pieces per container / 40' HC |

For tracker installation, please turn to Suntech for mechanical load information.



Electrical Characteristics

| Module Type | STP 550 S-C72/Pmh+ | | STP 545 S-C72/Pmh+ | | STP 540 S-C72/Pmh+ | | STP 535 S-C72/Pmh+ | | STP 530 S-C72/Pmh+ | |
|-----------------------------------|--------------------|-------|--------------------|-------|--------------------|-------|--------------------|-------|--------------------|-------|
| | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Maximum Power (Pmax/W) | 550 | 415.0 | 545 | 411.5 | 540 | 408.0 | 535 | 404.3 | 530 | 400.6 |
| Optimum Operating Voltage (Vmp/V) | 42.05 | 38.9 | 41.87 | 38.7 | 41.75 | 38.6 | 41.57 | 38.4 | 41.39 | 38.2 |
| Optimum Operating Current (Imp/A) | 13.08 | 10.67 | 13.02 | 10.63 | 12.94 | 10.58 | 12.87 | 10.53 | 12.81 | 10.47 |
| Open Circuit Voltage (Voc/V) | 49.88 | 46.9 | 49.69 | 46.7 | 49.54 | 46.5 | 49.39 | 46.4 | 49.24 | 46.3 |
| Short Circuit Current (Isc/A) | 14.01 | 11.22 | 13.96 | 11.18 | 13.89 | 11.13 | 13.83 | 11.08 | 13.76 | 11.02 |
| Module Efficiency (%) | 21.3 | | 21.1 | | 20.9 | | 20.7 | | 20.5 | |

STC: Irradiance 1000 W/m², module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s; Tolerance of Pmax is within +/- 3%.

Different Rearside Power Gain Reference to 540S Front

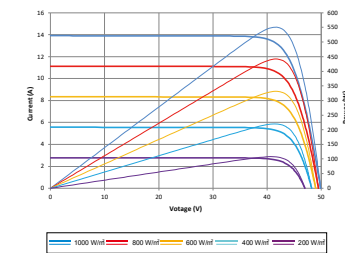
| Rearside Power Gain | 5% | 15% | 25% |
|-----------------------------------|-------|-------|-------|
| Maximum Power at STC (Pmax) | 567.0 | 621.0 | 675.0 |
| Optimum Operating Voltage (Vmp/V) | 41.8 | 41.8 | 41.9 |
| Optimum Operating Current (Imp/A) | 13.59 | 14.88 | 16.18 |
| Open Circuit Voltage (Voc/V) | 49.5 | 49.5 | 49.6 |
| Short Circuit Current (Isc/A) | 14.58 | 15.97 | 17.36 |
| Module Efficiency (%) | 21.9 | 24.0 | 26.1 |

Temperature Characteristics

| | |
|---|------------|
| Nominal Module Operating Temperature (NMOT) | 42 ± 2 °C |
| Temperature Coefficient of Pmax | -0.36%/°C |
| Temperature Coefficient of Voc | -0.304%/°C |
| Temperature Coefficient of Isc | 0.050%/°C |

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.

Graphs Current-Voltage & Power-Voltage (550S)

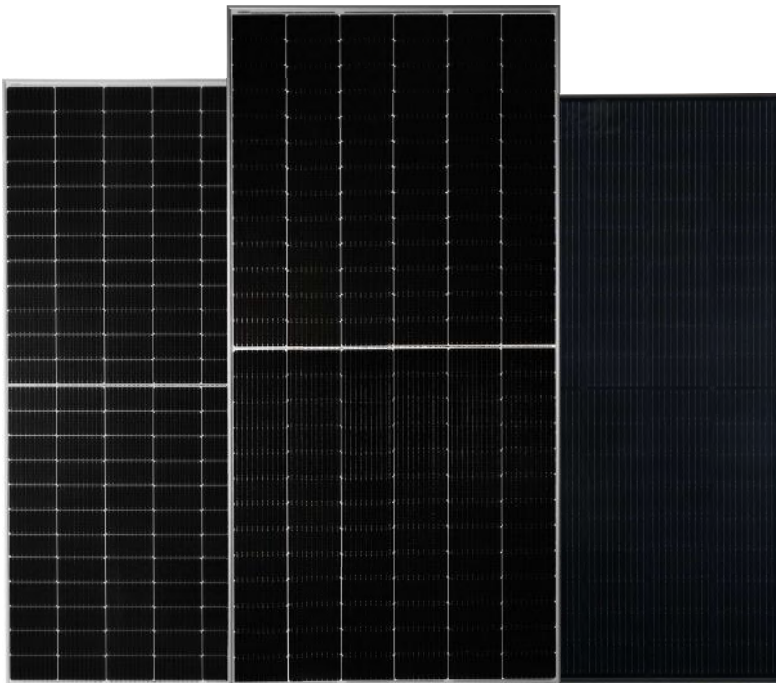


* Please refer to Suntech Standard Module Installation Manual for details.
 ** Please refer to Suntech Limited Warranty for details.

*** WEEE only for EU market.
 **** Suntech reserves the right to the final interpretation of the warranty by Munich RE.

Ultra V Pro series

Higher efficiency leading a new era



Introduction

The Ultra V Pro series adopts N-type 182mm size wafers and relies on the new TOPCon technology, resulting in cell efficiencies of over 24.5%; The Ultra V Pro series adopts 182mm N-type TOPCon cells. Compared with P-type PERC cells, the cell efficiency increases by more than 1%. With low temperature coefficient, the power generation is 3-4% higher than PERC's; and the excellent bifacial gain is 10% higher. The degradation is only 1% in the first year and 0.4% each subsequent year. The excellent power generation performance creates higher revenue for customers.

Features



Tracker



2400/5400Pa



Lower BoS Cost



Lower Working Temperature



High Efficiency



Lowest PID



Lowest Temperature Coefficient



Bifacial Gain

Basic Products

| Series | Module type | Power / w | No.of cells / pcs | Dimensions / mm | Weight / kg |
|-------------|-------------|-----------|-------------------|-----------------|-------------|
| | C54-Umh | 410-430 | 108 | 1724×1134×30 | 22.1 |
| Ultra V Pro | C72-Vmh | 550-570 | 144 | 2279×1134×35 | 29.1 |
| | C72-Nmh+ | 545-565 | 144 | 2279×1134×30 | 32.8 |

Note: See datasheet for details.

Ultra V Pro mini

HALF-CELL N-TOPCon MONOFACIAL MODULE

TYPE: STPXXXS - C54/Uhm



POWER OUTPUT **MAX EFFICIENCY**
410-430W **22.0%**

Features



High module conversion efficiency

Module efficiency up to **22.0%** achieved through advanced cell technology and manufacturing process



Lower operating temperature

Lower operating temperature and temperature coefficient increases the power output



Suntech current sorting process

Up to **2%** power loss caused by current mismatch could be diminished by current sorting technique to maximize system power output



Extended wind and snow load tests

Module certified to withstand extreme wind (**3800** Pascal) and snow loads (**6000** Pascal) *



Excellent weak light performance

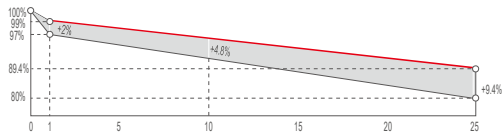
More power output in weak light condition, such as cloudy, morning and sunset



Withstanding harsh environment

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

Industry-leading Warranty**



- ◆ First-year power degradation: 1%
- ◆ Annual degradation: 0.40%
- ◆ Product warranty: 12years
- ◆ linear warranty: 25years

Certifications and Standards

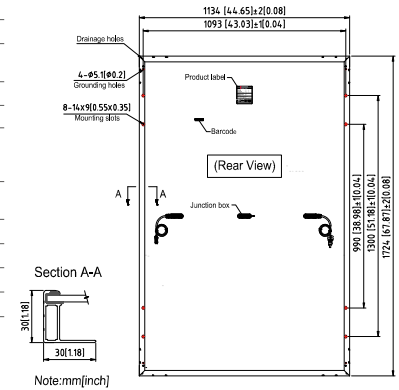
CE IEC 61730 IEC 61215
 SA 8000 Social Responsibility Standards
 ISO 9001 Quality Management System
 ISO 14001 Environment Management System
 ISO 45001 Occupational Health and Safety
 IEC TS 62941 Guideline for module design qualification and type approval



Ultra V Pro STPXXXS - C54/Uhm 410-430W

Mechanical Characteristics

| | |
|------------------------------|---|
| Solar Cell | N-type Monocrystalline silicon 182mm |
| No. of Cells | 108 (6 × 18) |
| Dimensions | 1724 × 1134 × 30mm (67.9 × 44.6 × 1.2inches) |
| Weight | 22.1kgs (48.7lbs.) |
| Front Glass | 3.2mm (0.126inches) fully tempered glass |
| Output Cables | 4.0mm ² (-) 350mm (+) 160mm in length or customized length |
| Junction Box | IP68 rated (3 bypass diodes) |
| Operating Module Temperature | -40 °C to +85 °C |
| Maximum System Voltage | 1500V DC (IEC) |
| Maximum Series Fuse Rating | 25A |
| Power Tolerance | 0/+5W |



Electrical Characteristics

| Module Type | STP430 S-C54/Uhm | | STP425 S-C54/Uhm | | STP420 S-C54/Uhm | | STP415 S-C54/Uhm | | STP410 S-C54/Uhm | |
|-----------------------------------|------------------|-------|------------------|-------|------------------|-------|------------------|-------|------------------|-------|
| | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Maximum Power (Pmax/W) | 430 | 327.1 | 425 | 323.5 | 420 | 320 | 415 | 316 | 410 | 312.2 |
| Optimum Operating Voltage (Vmp/V) | 32.43 | 30.1 | 32.25 | 29.9 | 32.03 | 29.7 | 31.81 | 29.5 | 31.59 | 29.3 |
| Optimum Operating Current (Imp/A) | 13.26 | 10.87 | 13.18 | 10.81 | 13.11 | 10.76 | 13.05 | 10.7 | 12.98 | 10.64 |
| Open Circuit Voltage (Voc/V) | 38.26 | 36.2 | 38.08 | 36.0 | 37.86 | 35.8 | 37.67 | 35.6 | 37.45 | 35.4 |
| Short Circuit Current (Isc/A) | 14.17 | 11.42 | 14.10 | 11.37 | 14.03 | 11.31 | 13.95 | 11.25 | 13.88 | 11.19 |
| Module Efficiency (%) | 22.0 | | 21.7 | | 21.5 | | 21.2 | | 21.0 | |

STC: Irradiance 1000 W/m², module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s; Tolerance of Pmax is within +/- 3%.

Temperature Characteristics

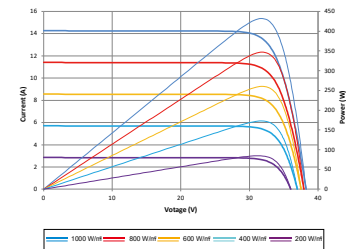
| | |
|---|-----------|
| Nominal Module Operating Temperature (NMOT) | 42 ± 2 °C |
| Temperature Coefficient of Pmax | -0.32%/°C |
| Temperature Coefficient of Voc | -0.26%/°C |
| Temperature Coefficient of Isc | 0.046%/°C |

Packing Configuration

| | |
|--------------------------|------------------|
| Container | 40' HC |
| Pieces per pallet | 36 |
| Pallets per container | 26 |
| Pieces per container | 936 |
| Packaging box dimensions | 1755×1130×1269mm |
| Packaging box weight | 846kg |

Graphs

Current-Voltage & Power-Voltage Curve (430S)



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.

* Please refer to Suntech Standard Module Installation Manual for details.
 ** Please refer to Suntech Limited Warranty for details.

*** WEEE only for EU market.
 **** Suntech reserves the right to the final interpretation of the warranty by Munich Rn.

Ultra V Pro

HALF-CELL N-TOPCon MONOFACIAL MODULE

TYPE: STPXXXS - C72/Vmh



POWER OUTPUT **MAX EFFICIENCY**
550-570W **22.1%**

Features



High module conversion efficiency

Module efficiency up to **22.1%** achieved through advanced cell technology and manufacturing process



Lower operating temperature

Lower operating temperature and temperature coefficient increases the power output



Suntech current sorting process

Up to **2%** power loss caused by current mismatch could be diminished by current sorting technique to maximize system power output



Extended wind and snow load tests

Module certified to withstand extreme wind (**2400** Pascal) and snow loads (**5400** Pascal) *



Excellent weak light performance

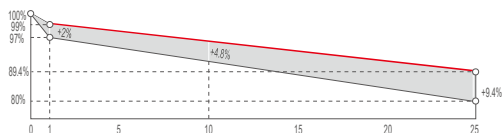
More power output in weak light condition, such as cloudy, morning and sunset



Withstanding harsh environment

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

Industry-leading Warranty**



- ◆ First-year power degradation: 1%
- ◆ Annual degradation: 0.40%
- ◆ Product warranty: 12years
- ◆ Linear warranty: 25years

Certifications and Standards

CE IEC 61730 IEC 61215
 SA 8000 Social Responsibility Standards
 ISO 9001 Quality Management System
 ISO 14001 Environment Management System
 ISO 45001 Occupational Health and Safety
 IEC TS 62941 Guideline for module design qualification and type approval

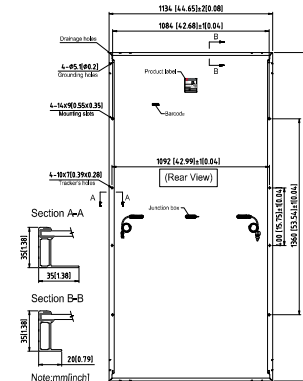


Ultra V Pro STPXXXS - C72/Vmh 550-570W

Mechanical Characteristics

| | |
|------------------------------|---|
| Solar Cell | N-type Monocrystalline silicon 182mm |
| No. of Cells | 144 (6 × 24) |
| Dimensions | 2279 × 1134 × 35mm (89.7 × 44.6 × 1.4inches) |
| Weight | 29.1kgs (64.2lbs.) |
| Front Glass | 3.2mm (0.126inches) fully tempered glass |
| Output Cables | 4.0mm ² (-) 350mm (+) 160mm in length or customized length |
| Junction Box | IP68 rated (3 bypass diodes) |
| Operating Module Temperature | -40 °C to +85 °C |
| Maximum System Voltage | 1500V DC (IEC) |
| Maximum Series Fuse Rating | 25A |
| Power Tolerance | 0/+5W |

For tracker installation, please turn to Suntech for mechanical load information.



Electrical Characteristics

| Module Type | STP570 S-C72/Vmh | | STP565 S-C72/Vmh | | STP560 S-C72/Vmh | | STP555 S-C72/Vmh | | STP550 S-C72/Vmh | |
|-----------------------------------|------------------|-------|------------------|-------|------------------|-------|------------------|-------|------------------|-------|
| | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Maximum Power (Pmax/W) | 570 | 433.8 | 565 | 430.3 | 560 | 426.7 | 555 | 422.8 | 550 | 419.0 |
| Optimum Operating Voltage (Vmp/V) | 42.72 | 39.7 | 42.56 | 39.5 | 42.40 | 39.3 | 42.24 | 39.2 | 42.05 | 39.0 |
| Optimum Operating Current (Imp/A) | 13.34 | 10.94 | 13.28 | 10.89 | 13.21 | 10.84 | 13.14 | 10.79 | 13.08 | 10.74 |
| Open Circuit Voltage (Voc/V) | 50.55 | 47.8 | 50.39 | 47.7 | 50.23 | 47.5 | 50.07 | 47.4 | 49.88 | 47.2 |
| Short Circuit Current (Isc/A) | 14.26 | 11.50 | 14.20 | 11.45 | 14.14 | 11.40 | 14.07 | 11.35 | 14.01 | 11.30 |
| Module Efficiency (%) | 22.1 | | 21.9 | | 21.7 | | 21.5 | | 21.3 | |

STC: Irradiance 1000 W/m², module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s; Tolerance of Pmax is within +/- 3%;

Temperature Characteristics

| | |
|---|-----------|
| Nominal Module Operating Temperature (NMOT) | 42 ± 2 °C |
| Temperature Coefficient of Pmax | -0.32%/°C |
| Temperature Coefficient of Voc | -0.26%/°C |
| Temperature Coefficient of Isc | 0.046%/°C |

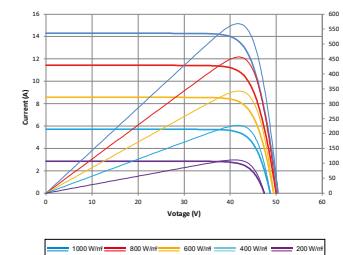
Packing Configuration

| | |
|--------------------------|------------------|
| Container | 40' HC |
| Pieces per pallet | 31 |
| Pallets per container | 20 |
| Pieces per container | 620 |
| Packaging box dimensions | 2310×1130×1269mm |
| Packaging box weight | 965kg |

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 the modules which do not impair their proper functioning are possible and do not constitute a deviation from the specification.

Graphs

Current-Voltage & Power-Voltage Curve (570S)



* Please refer to Suntech Standard Module Installation Manual for details.
 ** Please refer to Suntech Limited Warranty for details.

*** WEEE only for EU market.
 **** Suntech reserves the right to the final interpretation of the warranty by Munich Rn.

Ultra V Pro

HALF-CELL N-TOPCon BIFACIAL MODULE

TYPE: STPXXXS - C72/Nmh+



POWER OUTPUT **MAX EFFICIENCY**
545-565W **21.9%**

Features



High module conversion efficiency

Module efficiency up to **21.9%** achieved through advanced cell technology and manufacturing process



Lower operating temperature

Lower operating temperature and temperature coefficient increases the power output



Suntech current sorting process

Up to **2%** power loss caused by current mismatch could be diminished by current sorting technique to maximize system power output



Extended wind and snow load tests

Module certified to withstand extreme wind (**2400** Pascal) and snow loads (**5400** Pascal) *



Excellent weak light performance

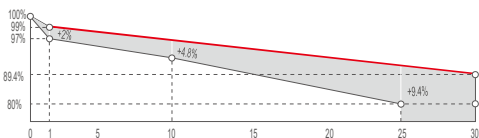
More power output in weak light condition, such as cloudy, morning and sunset



Withstanding harsh environment

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

Industry-leading Warranty**



- ◆ First year power degradation: 1%
- ◆ Annual degradation: 0.40%
- ◆ Product warranty: 12 years
- ◆ Linear warranty: 30 years

Certifications and Standards

CE IEC 61730 IEC 61215
 SA 8000 Social Responsibility Standards
 ISO 9001 Quality Management System
 ISO 14001 Environment Management System
 ISO 45001 Occupational Health and Safety
 IEC TS 62941 Guideline for module design qualification and type approval

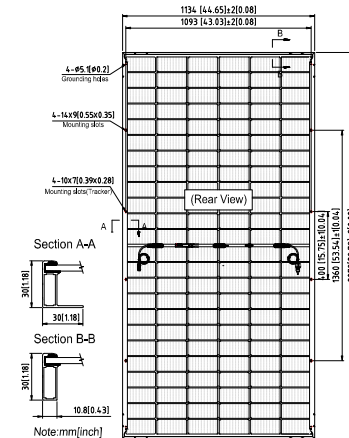


Ultra V Pro STPXXXS - C72/Nmh+ 545-565W

Mechanical Characteristics

| | |
|------------------------------|---|
| Solar Cell | N-type Monocrystalline silicon 182mm |
| No. of Cells | 144 (6 × 24) |
| Dimensions | 2279 × 1134 × 30mm (89.7 × 44.6 × 1.2inches) |
| Weight | 32.8kgs (72.3lbs.) |
| Front\ Back Glass | 2.0+2.0mm (0.079+ 0.079inches) semi-tempered glass |
| Output Cables | 4.0mm ² (-) 350mm and (+) 160mm in length or customized length |
| Junction Box | IP68 rated (3 bypass diodes) |
| Operating Module Temperature | -40 °C to +85 °C |
| Maximum System Voltage | 1500V DC (IEC) |
| Maximum Series Fuse Rating | 25A |
| Power Tolerance | 0/+5W |
| Refer. Bifaciality Factor | (80 ± 5)% |
| Packing Configuration | Packaging box dimensions (mm) : 2310×1130×1269 Packaging box weight (kg) : 1245 36 Pieces per pallet 720 Pieces per container / 40' HC |

For tracker installation, please turn to Suntech for mechanical load information.



Electrical Characteristics

| Module Type | STP 565 S-C72/Nmh+ | | STP 560 S-C72/Nmh+ | | STP 555 S-C72/Nmh+ | | STP 550 S-C72/Nmh+ | | STP 545 S-C72/Nmh+ | |
|-----------------------------------|--------------------|-------|--------------------|-------|--------------------|-------|--------------------|-------|--------------------|-------|
| Testing Condition | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Maximum Power (Pmax/W) | 565 | 430.3 | 560 | 426.7 | 555 | 422.8 | 550 | 419 | 545 | 415.3 |
| Optimum Operating Voltage (Vmp/V) | 42.56 | 39.5 | 42.40 | 39.3 | 42.24 | 39.2 | 42.05 | 39 | 41.87 | 38.8 |
| Optimum Operating Current (Imp/A) | 13.28 | 10.89 | 13.21 | 10.84 | 13.14 | 10.79 | 13.08 | 10.74 | 13.02 | 10.70 |
| Open Circuit Voltage (Voc/V) | 50.39 | 47.7 | 50.23 | 47.5 | 50.07 | 47.4 | 49.88 | 47.2 | 49.69 | 47.0 |
| Short Circuit Current (Isc/A) | 14.20 | 11.45 | 14.14 | 11.40 | 14.07 | 11.35 | 14.01 | 11.30 | 13.96 | 11.26 |
| Module Efficiency (%) | 21.9 | | 21.7 | | 21.5 | | 21.3 | | 21.1 | |

STC: Irradiance 1000 W/m², module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s; Tolerance of Pmax is within +/- 3%.

Different Rearside Power Gain Reference to 555S Front

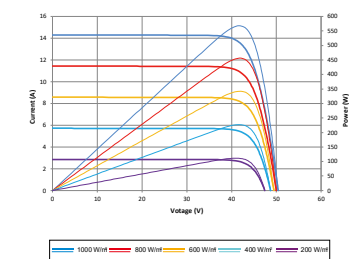
| Rearside Power Gain | 5% | 15% | 25% |
|-----------------------------------|-------|-------|-------|
| Maximum Power at STC (Pmax) | 582.8 | 638.3 | 693.8 |
| Optimum Operating Voltage (Vmp/V) | 42.2 | 42.2 | 42.3 |
| Optimum Operating Current (Imp/A) | 13.80 | 15.11 | 16.43 |
| Open Circuit Voltage (Voc/V) | 50.1 | 50.1 | 50.2 |
| Short Circuit Current (Isc/A) | 14.77 | 16.18 | 17.59 |
| Module Efficiency (%) | 22.5 | 24.7 | 26.8 |

Temperature Characteristics

| | |
|---|-----------|
| Nominal Module Operating Temperature (NMOT) | 42 ± 2 °C |
| Temperature Coefficient of Pmax | -0.32%/°C |
| Temperature Coefficient of Voc | -0.26%/°C |
| Temperature Coefficient of Isc | 0.046%/°C |

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.

Graphs Current-Voltage & Power-Voltage (565S)

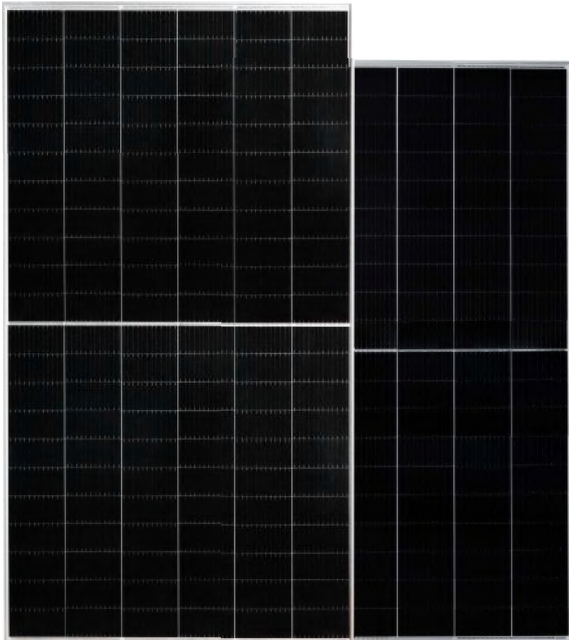


* Please refer to Suntech Standard Module Installation Manual for details.
 ** Please refer to Suntech Limited Warranty for details.

*** WEEE only for EU market.
 **** Suntech reserves the right to the final interpretation of the warranty by Munich R&D.

Ultra X series

Superb output and performance



Introduction

The Ultra X module adopts 210mm size wafers, MBB and high density packaging technology to greatly increase the energy generation of per-unit area of the module, reducing costs and gaining more benefits.

Features



Weak Light



2400/5400Pa



Lower BoS Cost



Lower Working Temperature



Higher Output



Optimize Circuit And Decrease Internal Loss



Ageing Resistance



Distributed Junction Box

Basic Products

| Series | Module type | Power / w | No.of cells / pcs | Dimensions / mm | Weight / kg |
|---------|-------------|-----------|-------------------|-----------------|-------------|
| Ultra X | D60-Wmh | 580-600 | 120 | 2172×1303×35 | 31.5 |

Note: See datasheet for details.

Ultra X

HALF-CELL MONOFACIAL MODULE

TYPE: STPXXXS - D60/Wmh



POWER OUTPUT
580-600W

MAX EFFICIENCY
21.2%

Features



High module conversion efficiency

Module efficiency up to **21.2%** achieved through advanced cell technology and manufacturing process



Lower operating temperature

Lower operating temperature and temperature coefficient increases the power output



Suntech current sorting process

Up to **2%** power loss caused by current mismatch could be diminished by current sorting technique to maximize system power output



Extended wind and snow load tests

Module certified to withstand extreme wind (**2400** Pascal) and snow loads (**5400** Pascal) *



Excellent weak light performance

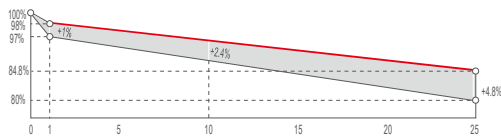
More power output in weak light condition, such as cloudy, morning and sunset



Withstanding harsh environment

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

Industry-leading Warranty**



- ◆ First year power degradation: 2%
- ◆ Annual degradation: 0.55%
- ◆ Product warranty: 12 years
- ◆ Linear warranty: 25 years

Certifications and Standards

CE IEC 61730 IEC 61215
SA 8000 Social Responsibility Standards
ISO 9001 Quality Management System
ISO 14001 Environment Management System
ISO 45001 Occupational Health and Safety
IEC TS 62941 Guideline for module design qualification and type approval



Munich RE

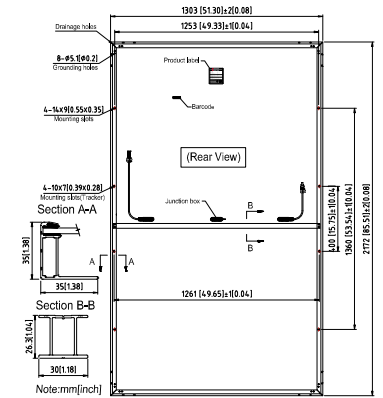
*** WEEE only for EU market.
**** Suntech reserves the right to the final interpretation of the warranty by Munich RE.

Ultra X STPXXXS - D60/Wmh 580-600W

Mechanical Characteristics

| | |
|------------------------------|---|
| Solar Cell | Monocrystalline silicon 210mm |
| No. of Cells | 144 (6 × 24) |
| Dimensions | 2172 × 1303 × 35mm (85.5 × 51.3 × 1.4 inches) |
| Weight | 31.5kgs (69.4 lbs.) |
| Front Glass | 3.2mm (0.126inches) fully tempered glass |
| Output Cables | 4.0mm ² (-) 350mm (+) 160mm in length or customized length |
| Junction Box | IP68 rated (3 bypass diodes) |
| Operating Module Temperature | -40 °C to +85 °C |
| Maximum System Voltage | 1500V DC (IEC) |
| Maximum Series Fuse Rating | 30A |
| Power Tolerance | 0/+5W |

For tracker installation, please turn to Suntech for mechanical load information.



Electrical Characteristics

| Module Type | STP 600 S-D60/Wmh | | STP 595 S-D60/Wmh | | STP 590 S-D60/Wmh | | STP 585 S-D60/Wmh | | STP 580 S-D60/Wmh | |
|-----------------------------------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|-------------------|-------|
| | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Maximum Power (Pmax/W) | 600 | 452.5 | 595 | 448.9 | 590 | 445.0 | 585 | 441.4 | 580 | 437.5 |
| Optimum Operating Voltage (Vmp/V) | 34.65 | 32.4 | 34.45 | 32.2 | 34.25 | 32.0 | 34.05 | 31.9 | 33.85 | 31.7 |
| Optimum Operating Current (Imp/A) | 17.32 | 13.97 | 17.28 | 13.94 | 17.23 | 13.89 | 17.19 | 13.86 | 17.14 | 13.81 |
| Open Circuit Voltage (Voc/V) | 41.85 | 39.4 | 41.65 | 39.2 | 41.45 | 39.1 | 41.25 | 38.9 | 41.05 | 38.7 |
| Short Circuit Current (Isc/A) | 18.31 | 14.73 | 18.27 | 14.70 | 18.22 | 14.66 | 18.18 | 14.63 | 18.13 | 14.59 |
| Module Efficiency (%) | 21.2 | | 21.0 | | 20.8 | | 20.7 | | 20.5 | |

STC: Irradiance 1000 W/m², module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s; Tolerance of Pmax is within +/- 3%.

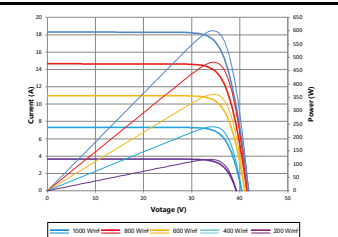
Temperature Characteristics

| | |
|---|------------|
| Nominal Module Operating Temperature (NMOT) | 42 ± 2 °C |
| Temperature Coefficient of Pmax | -0.36%/°C |
| Temperature Coefficient of Voc | -0.304%/°C |
| Temperature Coefficient of Isc | 0.050%/°C |

Packing Configuration

| | |
|----------------------|--------|
| Container | 40' HC |
| Pieces per container | 558 |

Graphs Current-Voltage & Power-Voltage Curve (6000s)



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 the modules which do not impair their proper functioning are possible and do not constitute a deviation from the specification.

* Please refer to Suntech Standard Module Installation Manual for details.
** Please refer to Suntech Limited Warranty for details.

Power Plant Projects



Baggersee Maiwald Floating Power Plant
Germany
System Capacity: 750 KW



Enlight Kramim Power Plant
Israel
System Capacity : 18 MW



Agadyr Power Plant
Kazakhstan
System Capacity: 50 MW



Setta PV Power Station
Brazil
System Capacity: 1.5 MW



Power Plant Kimberly Droogfontein
South Africa
System Capacity: 250 MW



Dongying Double Glass Power Plant
China
System Capacity: 92 MW



Shell Moerdijk Power Plant
Netherlands
System Capacity: 26.6 MW



Nuñez de Balboa Power Plant
Spain
System Capacity: 500 MW
(Suntech Supplied 100 MW)



Bejulo Solar Power Plant
Germany
System Capacity: 58.3 MW



Pavagada Power Plant
India
System Capacity: 350 MW
(Suntech Supplied 210 MW)



Tamil Nadu Power Plant
India
System Capacity: 222.5 MW



Solarpark Duurkenakker
Netherlands
System Capacity: 64 MW

Distributed Projects



San Francisco International Airport Terminal 3 Rooftop Project
America
System Capacity: 450 KW



Zhongyuan EP Rooftop Project
China
System Capacity: 27 MW



Hubei Huangshi Rifeng Project
China
System Capacity: 3.1 MW



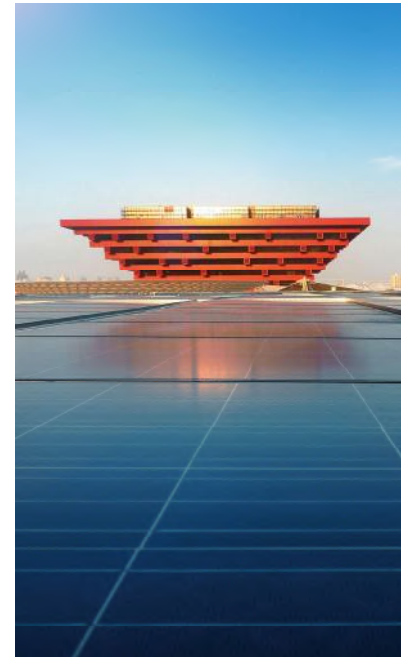
Kowa Elementary School BIPV Project
Japan
System Capacity: 10 KW



Asian Development Bank Rooftop Project
Philippines
System Capacity: 571 KW



SIEMENS Asia-Pacific Headquarter's Rooftop Project
China
System Capacity: 308 KW



Shanghai Expo BIPV Project
China
System Capacity: 3.14 MW



IKEA Rooftop Project
Australia
System Capacity: 384 KW



Bird's Nest Stadium BIPV Project
China
System Capacity: 130 KW



Sydney Opera House Rooftop Project
Australia
System Capacity: 384 KW