

Stand the Test of Time



2022  
Product Manual

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# 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

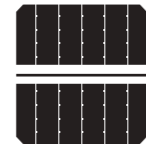
# Half-cell Technology

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



Full-cell  
 $P=I^2R$

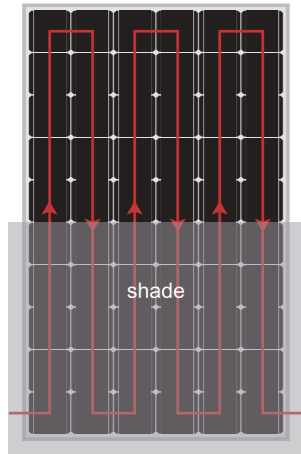
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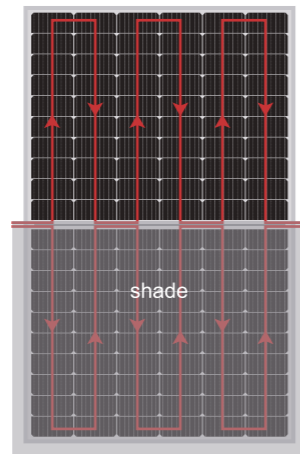
Half-cell  
 $P=(I/2)^2R$

cutting

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

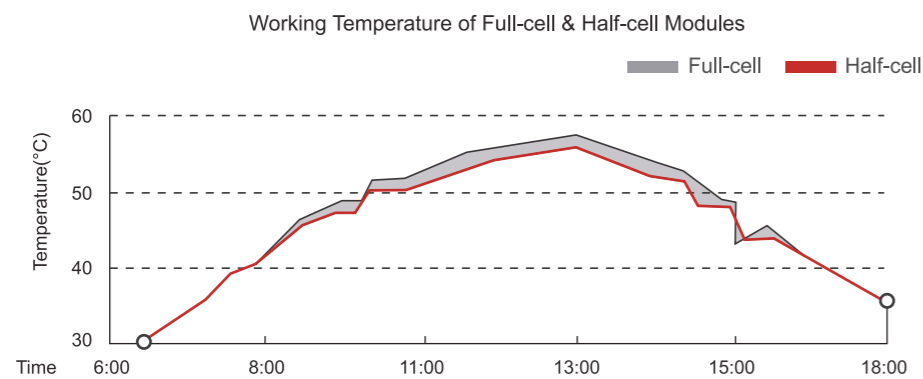


Full-cell: No power output



Half-cell: ~50% power output

**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.



Common Cell



MBB Cell

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

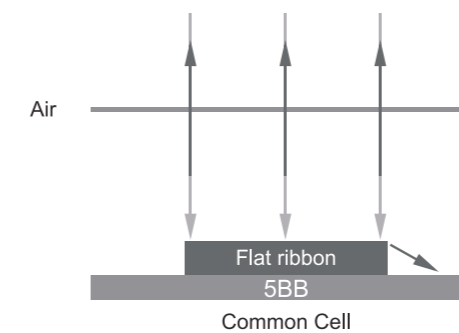


Common Cell

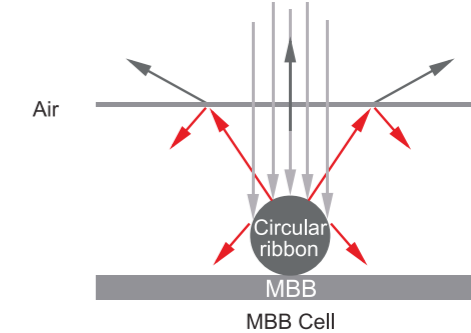


MBB Cell

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



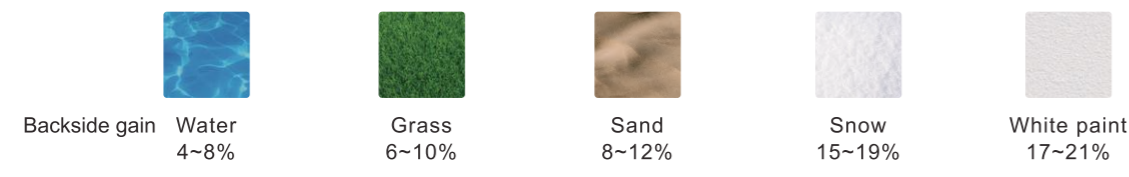
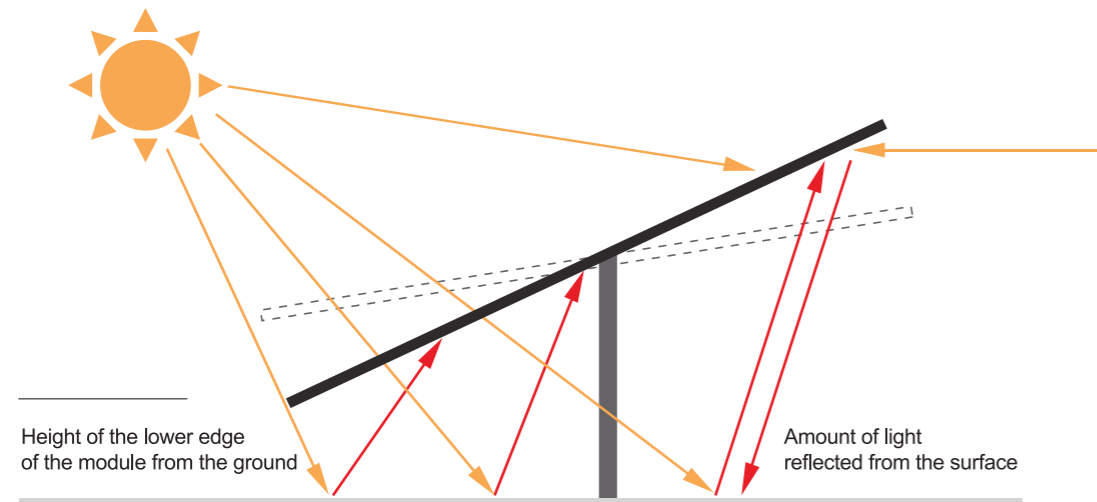
Common Cell



MBB Cell

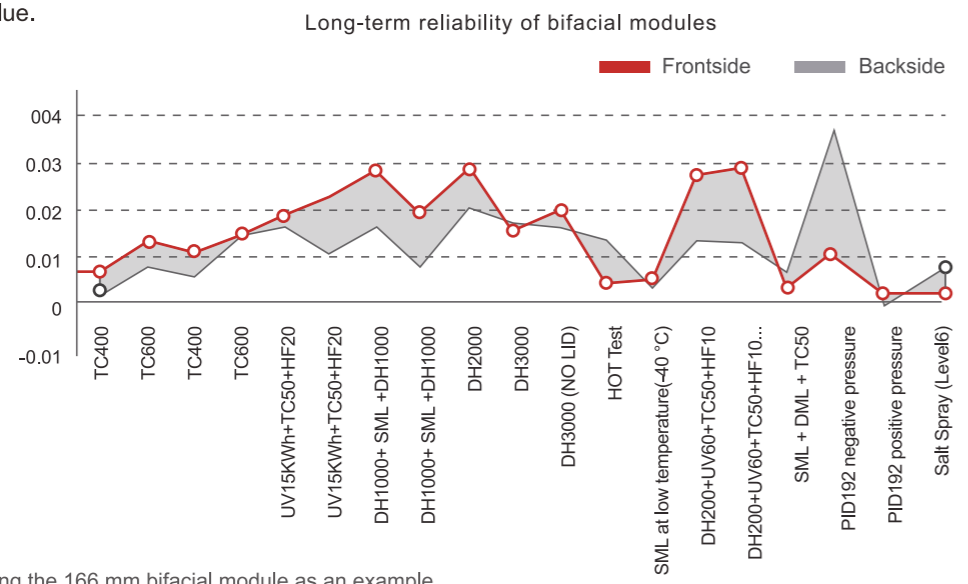
# Bifacial Technology

**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

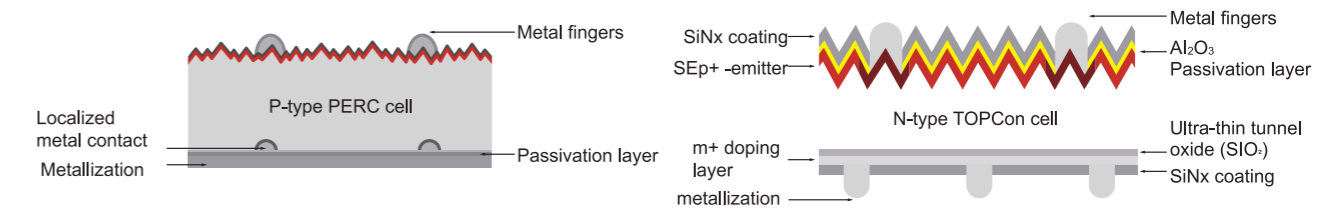
**High reliability:** Bifacial modules demonstrate superior long-term reliability, higher quality, and create more value.



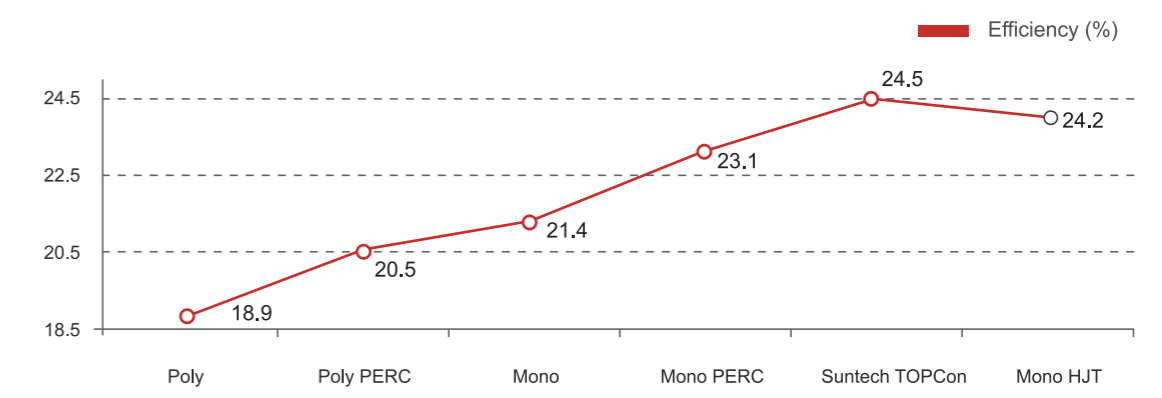
Note: Using the 166 mm bifacial module as an example

# N-type Technology

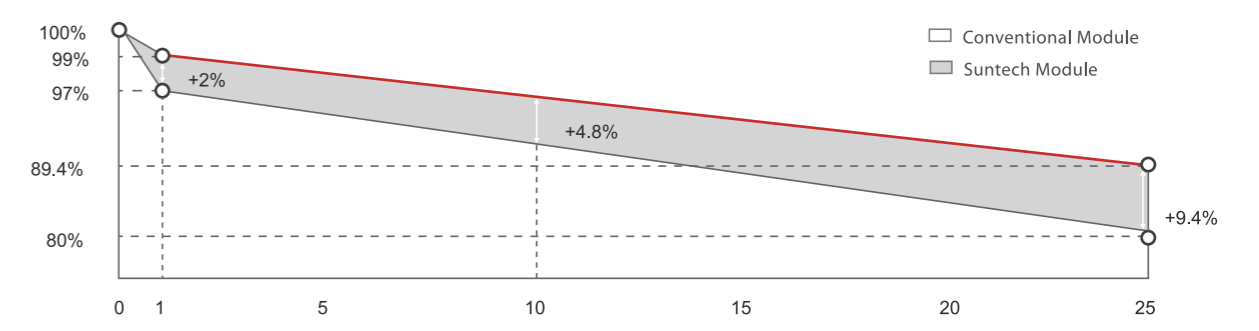
**Multi-layer energy enhancement and efficiency iteration:** TOPCon cell adopts a new surface passivation technology, which effectively reduces surface compound and metal contact compound, and has an area for efficiency improvement, and the efficiency of Suntech N-type cell has exceeded 24.5%.



Efficiencies of different cell technologies

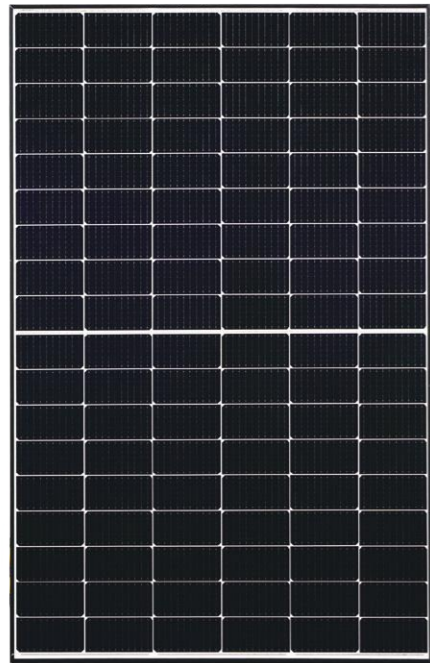


**Excellent warranty:** Compared with conventional modules, TOPCon modules have 2% lower first-year attenuation and 0.31% lower annual attenuation than conventional modules, resulting in higher power generation and higher revenue for customers.

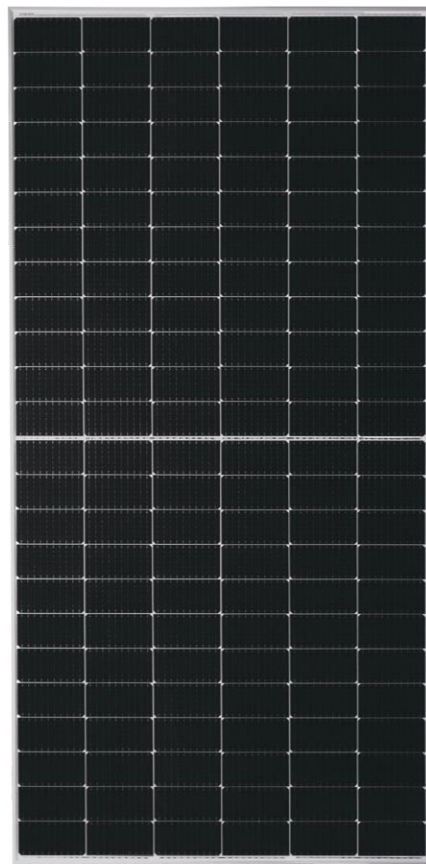


# Ultra Series

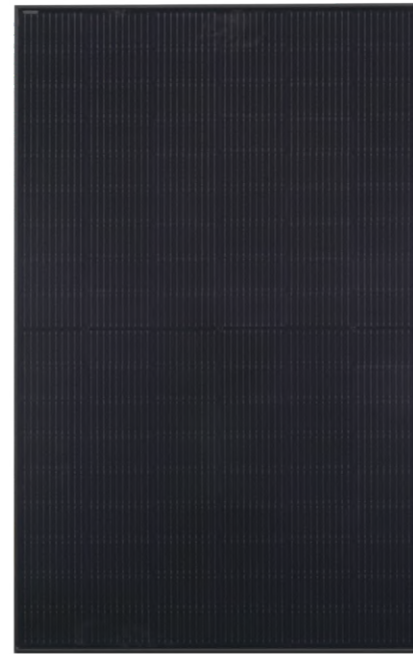
Suntech has Ultra V, and Ultra X series, which differs in wafer sizes respectively from 182mm to 210mm. The Ultra V Pro series is a new upgrade which is adopted N-type 182mm wafer with TOPCon technology instead of PERC to show a superior power efficiency more than 24.5% .



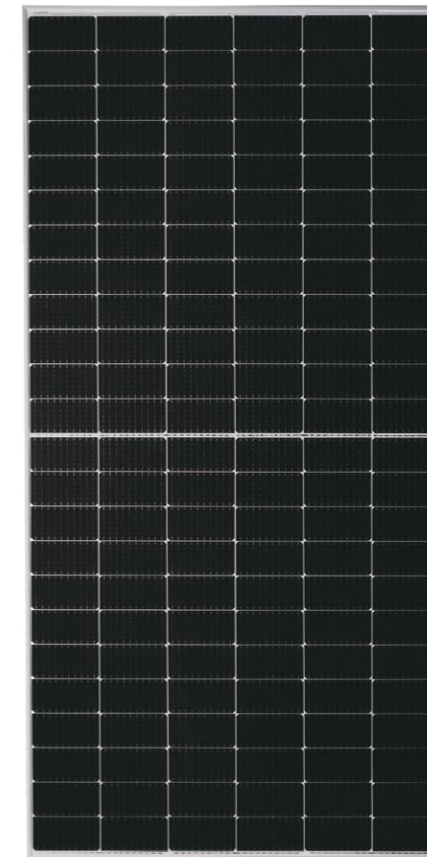
**410 W+**  
**Ultra V**



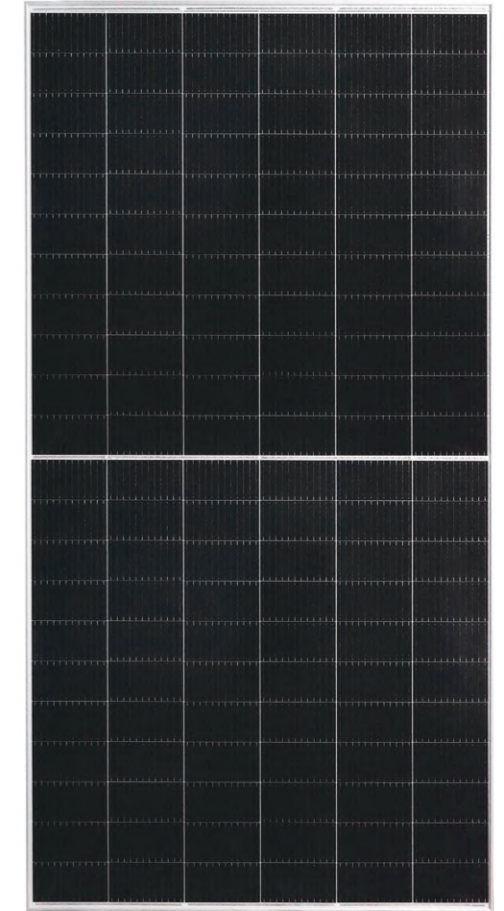
**550 W+**  
**Ultra V**



**430 W+**  
**Ultra V Pro**



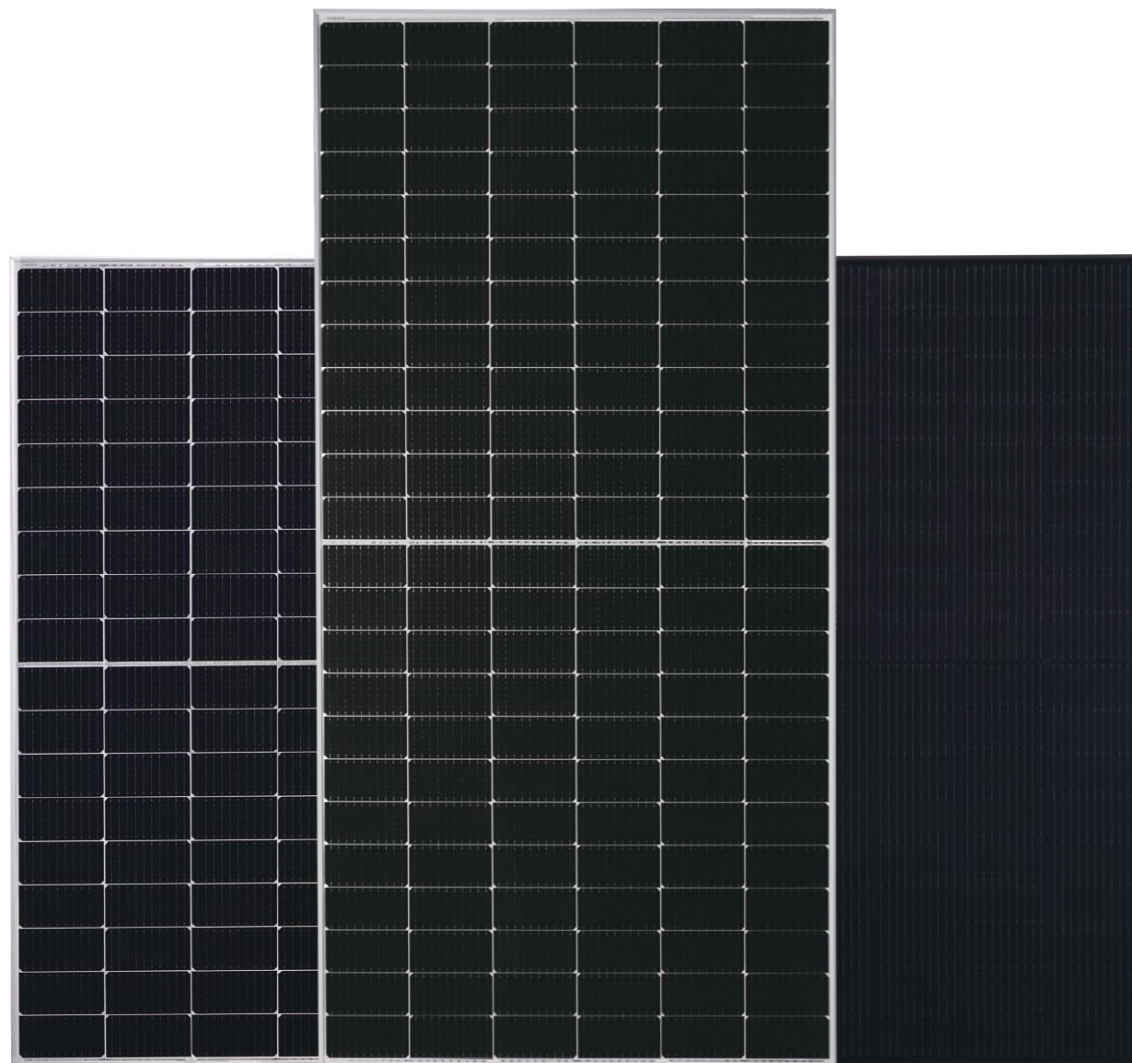
**570 W+**  
**Ultra V Pro**



**670 W+**  
**Ultra X**

# Ultra V series

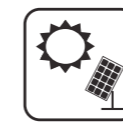
Hardcore energy and reliable technology



## 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 555W.

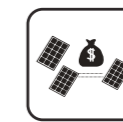
## Features



Tracker



2400/5400Pa



Lower BoS Cost



Lower Working Temperature



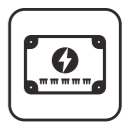
Higher Output



Optimize Circuit And Decrease Internal Loss



Ageing Resistance



Distributed Junction Box

## Basic Products

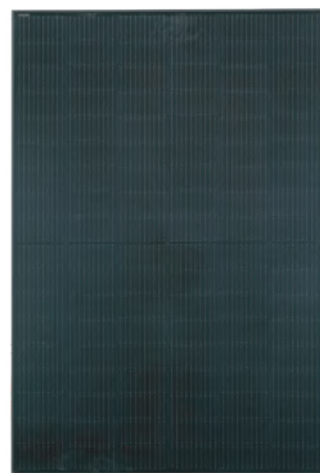
Series	Module type	Power / w	No.of cells / pcs	Dimensions / mm	Weight / kg
	C54-Umhb	390-410	108	1722×1134×30	21.0
Ultra V	C72-Vmh	535-555	144	2278×1134×35	27.5
	C72-Pmh+	530-550	144	2278×1134×30	32.0

Note: See datasheet for details.

# Ultra V mini

## HALF-CELL MONOFACIAL MODULE

TYPE: STPXXXS - C54/Umhb



POWER OUTPUT **390-410W**      MAX EFFICIENCY **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**) \*

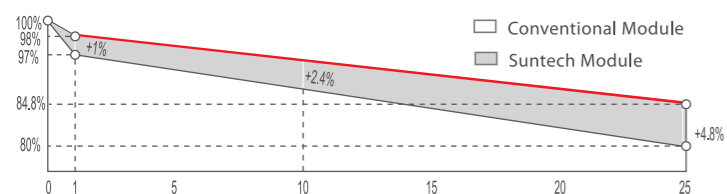


**Excellent weak light performance**  
More power output in weak light condition, such as cloudy, morning and sunset



**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: 15years
- ◆ linear warranty: 25years

### Certifications and Standards

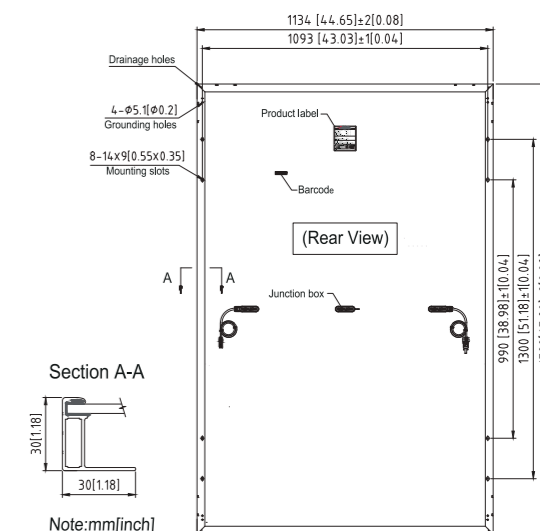
CE IEC 61730 IEC 61215  
SA 8000 Social Responsibility Standards  
ISO 9001 Quality Management System  
ISO 14001 Environment Management System  
ISO 45001 Occupational Health and Safety  
IEC TS 62941 Guideline for module design qualification and type approval



# Ultra V STPXXXS - C54/Umhb 390-410W

### Mechanical Characteristics

Solar Cell	Monocrystalline silicon 182mm
No. of Cells	108 (6 × 18)
Dimensions	1722 × 1134 × 30mm (67.8 × 44.6 × 1.2inches)
Weight	21.0kgs (46.3lbs.)
Front Glass	3.2mm (0.126inches) fully tempered glass
Output Cables	4.0mm <sup>2</sup> (-) 1400mm (+) 1400mm 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)
Connectors	MC4 EVO2, Cable01S, STP-XC4
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
Testing Condition	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		20.0	

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20 °C, AM=1.5, wind speed 1 m/s; Tolerance of Pmax is within +/- 3%.

### Temperature Characteristics

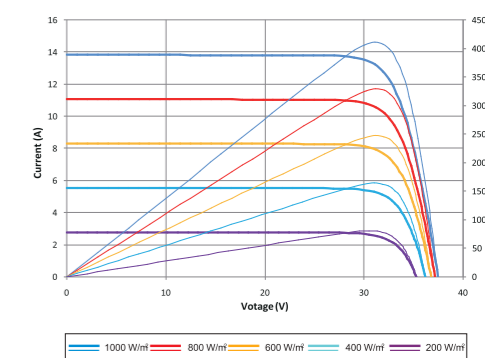
Nominal Module Operating Temperature (NMOT)	42 ± 2 °C
Temperature Coefficient of Pmax	-0.34%/°C
Temperature Coefficient of Voc	-0.26%/°C
Temperature Coefficient of Isc	0.050%/°C

### Packing Configuration

Container	40' HC
Pieces per pallet	36
Pallets per container	26
Pieces per container	936
Packaging box dimensions	1755×1120×1255mm
Packaging box weight	794kg

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



\* 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 MONOFACIAL MODULE

TYPE: STPXXXS - C72/Vmh



POWER OUTPUT  
**535-555W**

MAX EFFICIENCY  
**21.5%**

### Features



**High module conversion efficiency**  
Module efficiency up to **21.5%** 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) \*

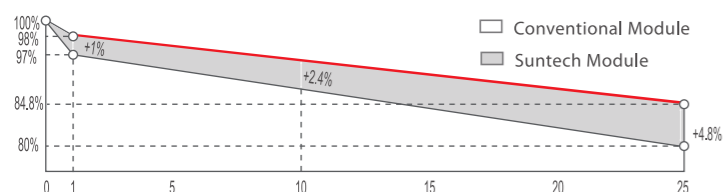


**Excellent weak light performance**  
More power output in weak light condition, such as cloudy, morning and sunset



**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: 12years
- ◆ linear warranty: 25years

### Certifications and Standards

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

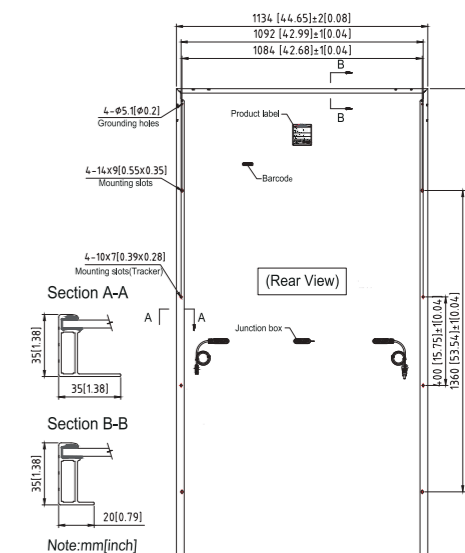


# Ultra V STPXXXS - C72/Vmh 535-555W

### Mechanical Characteristics

Solar Cell	Monocrystalline silicon 182mm
No. of Cells	144 (6 × 24)
Dimensions	2278 × 1134 × 35mm (89.7 × 44.6 × 1.4inches)
Weight	27.5kgs (60.6lbs.)
Front Glass	3.2mm (0.126inches) fully tempered glass
Output Cables	4.0mm <sup>2</sup> (-) 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)
Connectors	MC4 EVO2, Cable01S, STP-XC4
Maximum Series Fuse Rating	25A
Power Tolerance	0/+5W

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



### Electrical Characteristics

Module Type	STP 555 S-C72/Vmh		STP 550 S-C72/Vmh		STP 545 S-C72/Vmh		STP 540 S-C72/Vmh		STP 535 S-C72/Vmh	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	555	418.7	550	415.0	545	411.5	540	408.0	535	404.3
Optimum Operating Voltage (Vmp/V)	42.24	39.1	42.05	38.9	41.87	38.7	41.75	38.6	41.57	38.4
Optimum Operating Current (Imp/A)	13.14	10.72	13.08	10.67	13.02	10.63	12.94	10.58	12.87	10.53
Open Circuit Voltage (Voc/V)	50.07	47.0	49.88	46.9	49.69	46.7	49.54	46.5	49.39	46.4
Short Circuit Current (Isc/A)	14.07	11.27	14.01	11.22	13.96	11.18	13.89	11.13	13.83	11.08
Module Efficiency (%)	21.5		21.3		21.1		20.9		20.7	

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m<sup>2</sup>, 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	-0.34%/°C
Temperature Coefficient of Voc	-0.26%/°C
Temperature Coefficient of Isc	0.050%/°C

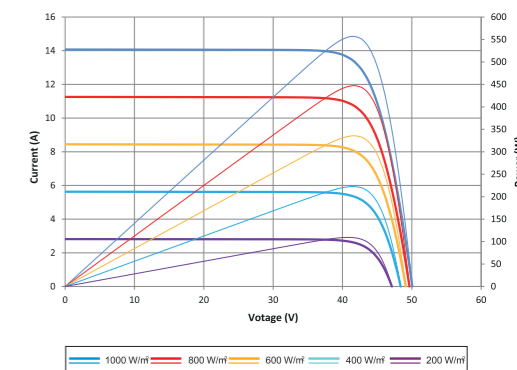
### Packing Configuration

Container	40' HC
Pieces per pallet	31
Pallets per container	20
Pieces per container	620
Packaging box dimensions	2310×1120×1255mm
Packaging box weight	902kg

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 Curve (555S)



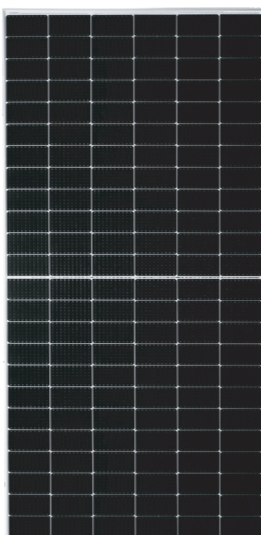
\* Please refer to Suntech Standard Module Installation Manual for details.  
\*\* Please refer to Suntech Limited Warranty for details.

\*\*\* 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 **530-550W**      MAX EFFICIENCY **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) \*

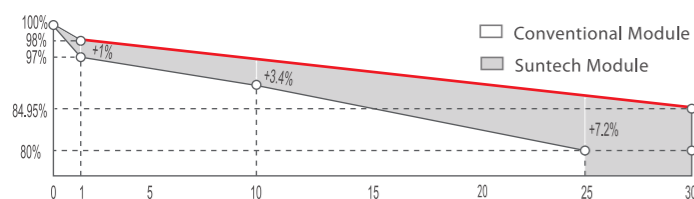


**Excellent weak light performance**  
More power output in weak light condition, such as cloudy, morning and sunset



**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: 12years
- ◆ linear warranty: 30years

### 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

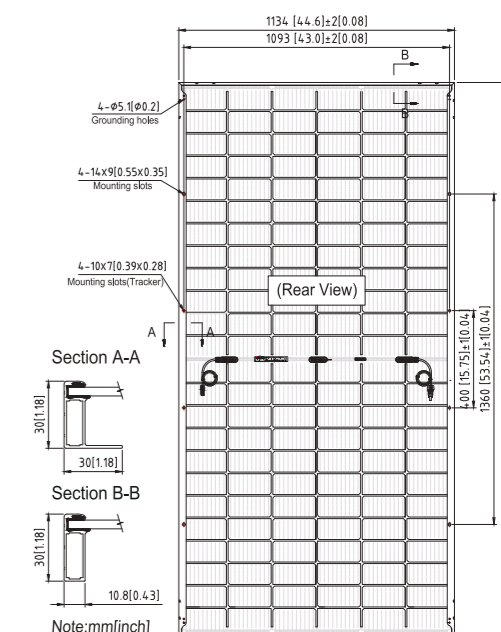
Solar Cell	Monocrystalline silicon 182mm
No. of Cells	144 (6 × 24)
Dimensions	2278 × 1134 × 30mm (89.7 × 44.6 × 1.2inches)
Weight	32.0kgs (70.5lbs.)
Front\ Back Glass	2.0+2.0mm (0.079+ 0.079inches) semi-tempered glass
Output Cables	4.0mm <sup>2</sup> (-) 350mm and (+) 160mm in length or customized length
Junction Box	IP68 rated (3 bypass diodes)
Operating Module Temperature	-40 °C to +85 °C
Maximum System Voltage	1500V DC (IEC)
Connectors	MC4 EVO2, Cable01S, STP-XC4
Maximum Series Fuse Rating	25A
Power Tolerance	0/+5W
Refer. Bifaciality Factor	(70 ± 5)%
Packing Configuration	Packaging box dimensions (mm) : 2310×1120×1255 Packaging box weight (kg) : 1202 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/m<sup>2</sup>, module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m<sup>2</sup>, 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

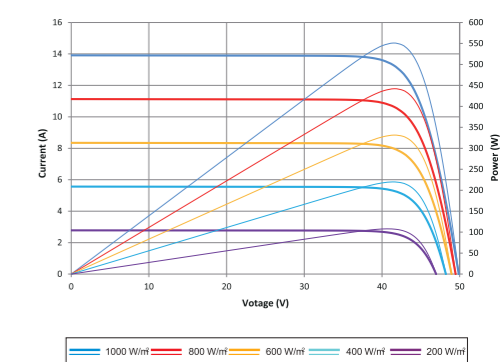
### Temperature Characteristics

Nominal Module Operating Temperature (NMOT)	42 ± 2 °C
Temperature Coefficient of Pmax	-0.34%/°C
Temperature Coefficient of Voc	-0.26%/°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)

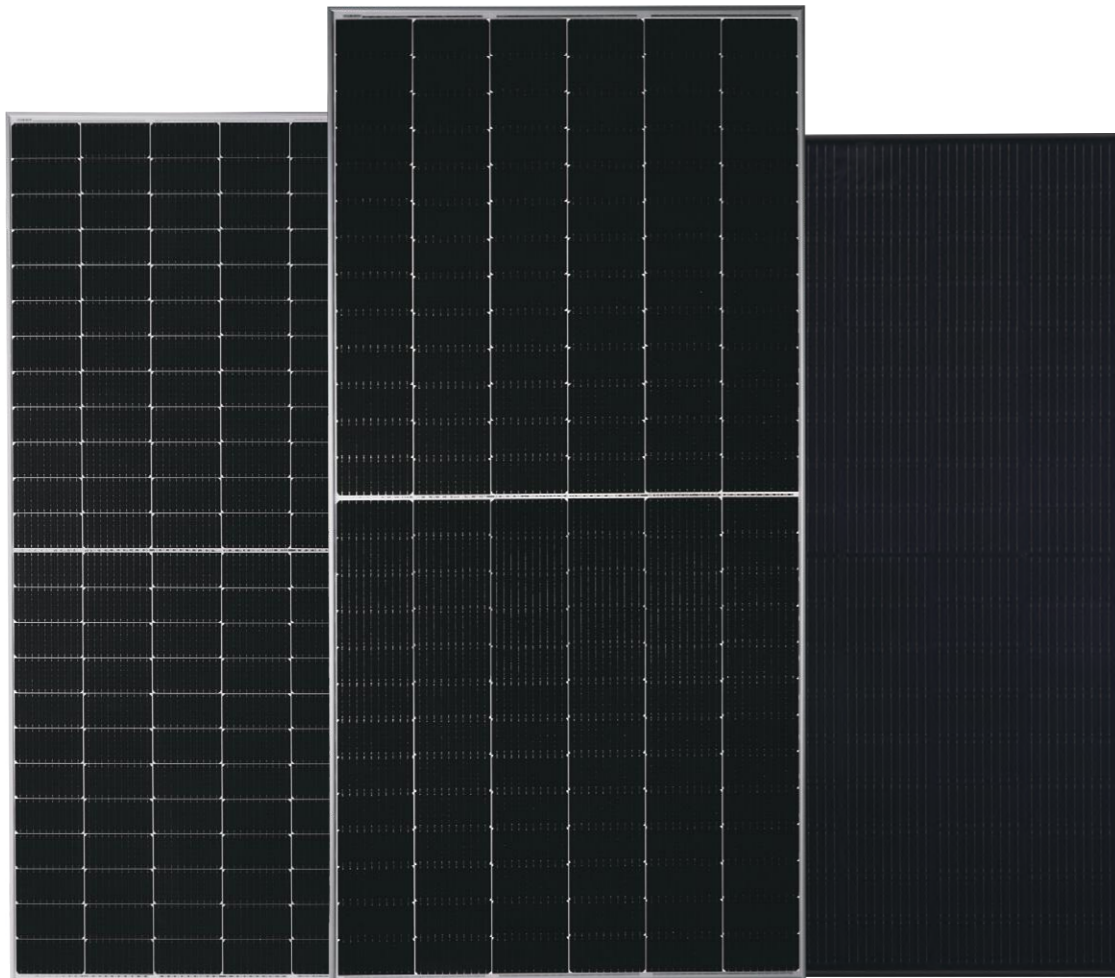


\* Please refer to Suntech Standard Module Installation Manual for details.  
\*\* Please refer to Suntech Limited Warranty for details.

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

# Ultra V Pro series

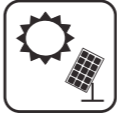







Cutting-edge technology, leading innovation



## 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 1.5%. With low temperature coefficient, the power generation is 3-4% higher than PERC's; and the excellent bifacial gain is 15% 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	 Higher Power Output	 Lower BoS Cost	 Lower Working Temperature
 High Efficiency	 Zero LID	 Lowest Temperature Coefficient	 Bifacial Gain

## Basic Products

Series	Module type	Power / w	No.of cells / pcs	Dimensions / mm	Weight / kg
Ultra V Pro	C54-Umhm	410-430	108	1722×1134×30	21.0
	C54-Nmhb+	410-430	108	1722×1134×30	23.8
	C72-Vmh	555-575	144	2278×1134×35	27.5
	C72-Nmh+	550-570	144	2278×1134×30	32.0

Note: See datasheet for details.

# Ultra V Pro mini

HALF-CELL N-Type TOPCon MONOFACIAL MODULE

TYPE: STPXXXS - C54/Uhm



POWER OUTPUT **410-430W**      MAX EFFICIENCY **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**) \*

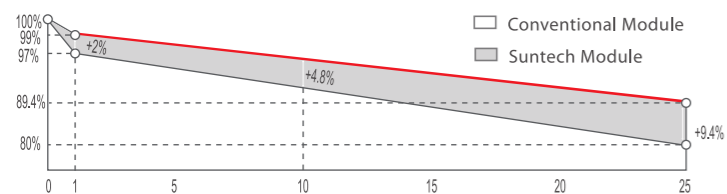


**Excellent weak light performance**  
More power output in weak light condition, such as cloudy, morning and sunset



**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: 15 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

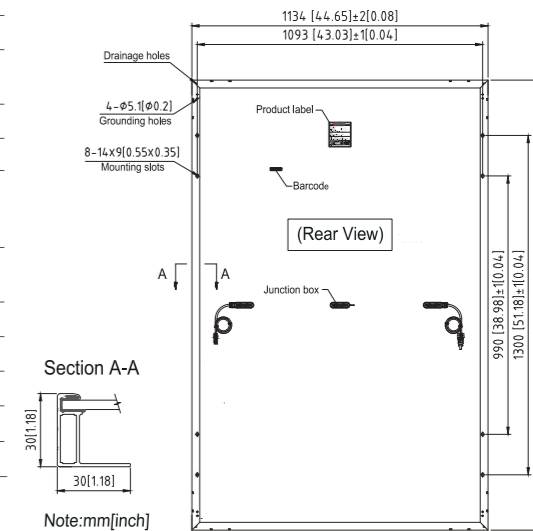


**Munich RE** \*\*\*\*\*

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

## Mechanical Characteristics

Solar Cell	N-type Monocrystalline silicon 182mm
No. of Cells	108 (6 × 18)
Dimensions	1722 × 1134 × 30mm (67.8 × 44.6 × 1.2inches)
Weight	21.0kgs (46.3lbs.)
Front Glass	3.2mm (0.126inches) fully tempered glass
Output Cables	4.0mm <sup>2</sup> (-) 1400mm (+) 1400mm 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)
Connectors	MC4 EVO2, Cable01S, STP-XC4
Maximum Series Fuse Rating	25A
Power Tolerance	0/+5W



## Electrical Characteristics

Module Type	STP 430 S-C54/Uhm		STP 425 S-C54/Uhm		STP 420 S-C54/Uhm		STP 415 S-C54/Uhm		STP 410 S-C54/Uhm	
Testing Condition	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	430	328.7	425	325.0	420	321.1	415	317.3	410	313.5
Optimum Operating Voltage (Vmp/V)	32.33	30.2	32.15	30.0	31.96	29.9	31.78	29.7	31.59	29.6
Optimum Operating Current (Imp/A)	13.30	10.89	13.22	10.82	13.14	10.75	13.06	10.68	12.98	10.60
Open Circuit Voltage (Voc/V)	38.72	36.8	38.59	36.6	38.46	36.5	38.33	36.4	38.20	36.3
Short Circuit Current (Isc/A)	14.25	11.49	14.17	11.42	14.09	11.36	14.01	11.30	13.93	11.23
Module Efficiency (%)	22.0		21.8		21.5		21.3		21.0	

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m<sup>2</sup>, 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	-0.30%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C

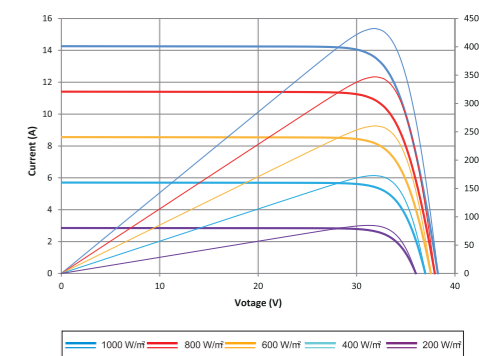
## Packing Configuration

Container	40' HC
Pieces per pallet	36
Pallets per container	26
Pieces per container	936
Packaging box dimensions	1755×1120×1255mm
Packaging box weight	794kg

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 Curve (430S)



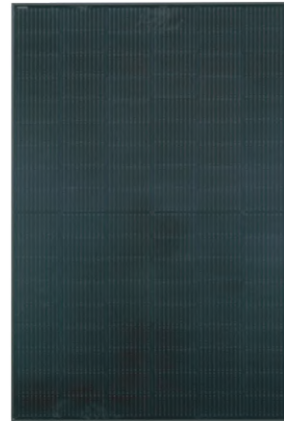
\* Please refer to Suntech Standard Module Installation Manual for details.  
\*\* Please refer to Suntech Limited Warranty for details.

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

# Ultra V Pro mini

## HALF-CELL N-Type TOPCon BIFACIAL MODULE

TYPE: STPXXXS - C54/Nmhb+



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

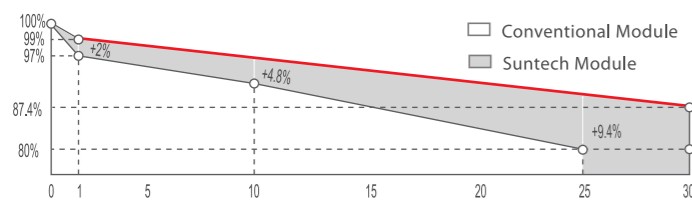
**Ultra-low LID degradation**  
**Zero LID** performance with N-type cells which greatly enhances module power.

**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

**Matched for the roof perfectly**  
Elegant all-black, outstanding design

### Industry-leading Warranty\*\*



- ◆ First year power degradation: 1%
- ◆ Annual degradation: 0.40%
- ◆ Product warranty: 15years
- ◆ linear warranty: 30years

### Certifications and Standards

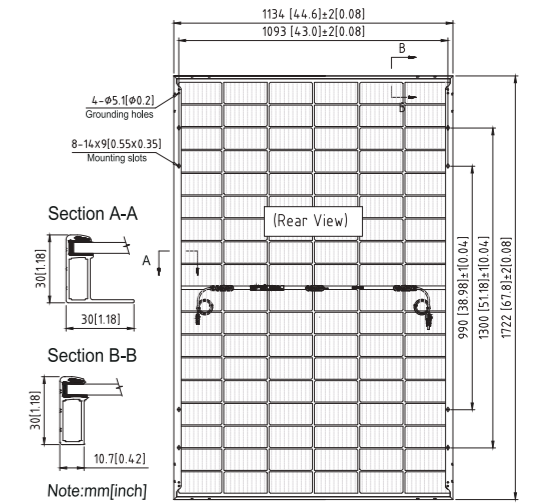
CE IEC 61730 IEC 61215  
SA 8000 Social Responsibility Standards  
ISO 9001 Quality Management System  
ISO 14001 Environment Management System  
ISO 45001 Occupational Health and Safety  
IEC TS 62941 Guideline for module design qualification and type approval



# Ultra V Pro STPXXXS - C54/Nmhb+ 410-430W

### Mechanical Characteristics

Solar Cell	N-type Monocrystalline silicon 182mm
No. of Cells	108 (6 × 18)
Dimensions	1722 × 1134 × 30mm (67.8 × 44.6 × 1.2 inches)
Weight	23.8 kgs (52.5 lbs.)
Front\ Back Glass	2.0 + 2.0 mm (0.079+ 0.079 inches) semi-tempered glass
Output Cables	4.0mm <sup>2</sup> (-) 1400mm and (+) 1400mm 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)
Connectors	MC4 EVO2, Cable01S, STP-XC4
Maximum Series Fuse Rating	25A
Power Tolerance	0/+5W
Refer. Bifaciality Factor	(80 ± 5)%
Packing Configuration	Packaging box dimensions (mm) : 1755×1120×1255 Packaging box weight (kg) : 894 36 Pieces per pallet 936 Pieces per container / 40' HC



### Electrical Characteristics

Module Type	STP 430 S-C54/Nmhb+		STP 425 S-C54/Nmhb+		STP 420 S-C54/Nmhb+		STP 415 S-C54/Nmhb+		STP 410 S-C54/Nmhb+	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	430	328.7	425	325.0	420	321.1	415	317.3	410	313.5
Optimum Operating Voltage (Vmp/V)	32.33	30.2	32.15	30.0	31.96	29.9	31.78	29.7	31.59	29.6
Optimum Operating Current (Imp/A)	13.30	10.89	13.22	10.82	13.14	10.75	13.06	10.68	12.98	10.60
Open Circuit Voltage (Voc/V)	38.72	36.8	38.59	36.6	38.46	36.5	38.33	36.4	38.20	36.3
Short Circuit Current (Isc/A)	14.25	11.49	14.17	11.42	14.09	11.36	14.01	11.30	13.93	11.23
Module Efficiency (%)	22.0		21.8		21.5		21.3		21.0	

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20 °C, AM=1.5, wind speed 1 m/s; Tolerance of Pmax is within +/- 3%;

### Different Rearside Power Gain Reference to 420S Front

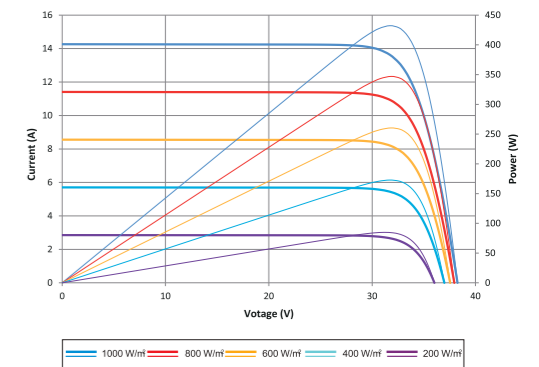
Rearside Power Gain	5%	15%	25%
Maximum Power at STC (Pmax)	441.0	483.0	525.0
Optimum Operating Voltage (Vmp/V)	32.0	32.0	32.1
Optimum Operating Current (Imp/A)	13.80	15.11	16.43
Open Circuit Voltage (Voc/V)	38.5	38.5	38.6
Short Circuit Current (Isc/A)	14.79	16.20	17.61
Module Efficiency (%)	22.6	24.7	26.9

### Temperature Characteristics

Nominal Module Operating Temperature (NMOT)	42 ± 2 °C
Temperature Coefficient of Pmax	-0.30%/°C
Temperature Coefficient of Voc	-0.25%/°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 (430S)



\* 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

## HALF-CELL N-Type TOPCon MONOFACIAL MODULE

TYPE: STPXXXS - C72/Vmh



POWER OUTPUT **555-575W**      MAX EFFICIENCY **22.3%**

### Features



**High module conversion efficiency**  
Module efficiency up to **22.3%** 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**) \*

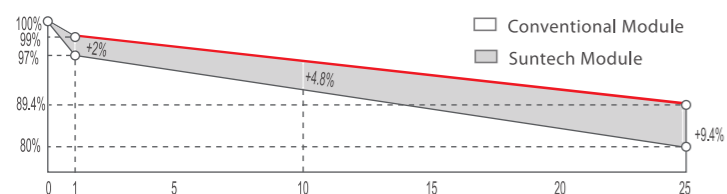


**Excellent weak light performance**  
More power output in weak light condition, such as cloudy, morning and sunset



**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: 1%
- ◆ Annual degradation: 0.40%
- ◆ Product warranty: 12 years
- ◆ Linear warranty: 25 years

### Certifications and Standards

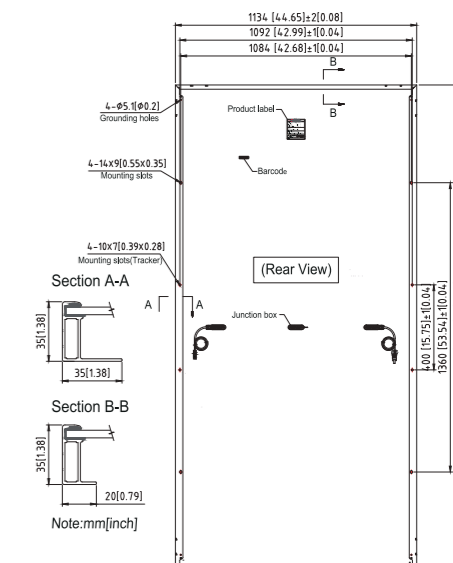
CE IEC 61730 IEC 61215  
SA 8000 Social Responsibility Standards  
ISO 9001 Quality Management System  
ISO 14001 Environment Management System  
ISO 45001 Occupational Health and Safety  
IEC TS 62941 Guideline for module design qualification and type approval



# Ultra V Pro STPXXXS - C72/Vmh 555-575W

### Mechanical Characteristics

Solar Cell	N-type Monocrystalline silicon 182mm
No. of Cells	144 (6 × 24)
Dimensions	2278 × 1134 × 35mm (89.7 × 44.6 × 1.4inches)
Weight	27.5kgs (60.6lbs.)
Front Glass	3.2mm (0.126inches) fully tempered glass
Output Cables	4.0mm <sup>2</sup> (-) 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)
Connectors	MC4 EVO2, Cable01S, STP-XC4
Maximum Series Fuse Rating	25A
Power Tolerance	0/+5W



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

### Electrical Characteristics

Module Type	STP 575 S-C72/Vmh		STP 570 S-C72/Vmh		STP 565 S-C72/Vmh		STP 560 S-C72/Vmh		STP 555 S-C72/Vmh	
Testing Condition	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	575	438.4	570	434.6	565	430.7	560	426.9	555	423.2
Optimum Operating Voltage (Vmp/V)	42.56	40.2	42.44	40.1	42.32	39.9	42.20	39.8	42.08	39.7
Optimum Operating Current (Imp/A)	13.51	10.91	13.43	10.85	13.35	10.79	13.27	10.72	13.19	10.66
Open Circuit Voltage (Voc/V)	51.29	48.7	51.16	48.6	51.03	48.5	50.90	48.3	50.77	48.2
Short Circuit Current (Isc/A)	14.24	11.48	14.16	11.42	14.08	11.35	14.00	11.29	13.92	11.22
Module Efficiency (%)	22.3		22.1		21.9		21.7		21.5	

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m<sup>2</sup>, 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	-0.30%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C

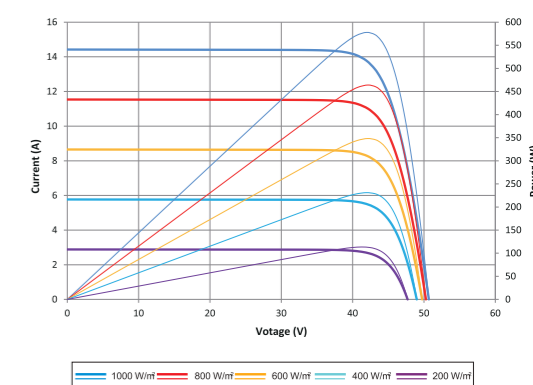
### Packing Configuration

Container	40' HC
Pieces per pallet	31
Pallets per container	20
Pieces per container	620
Packaging box dimensions	2310×1120×1255mm
Packaging box weight	902kg

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 Curve (575S)



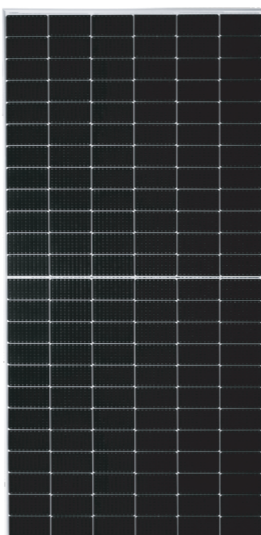
\* Please refer to Suntech Standard Module Installation Manual for details.  
\*\* Please refer to Suntech Limited Warranty for details.

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

# Ultra V Pro

## HALF-CELL N-Type TOPCon BIFACIAL MODULE

TYPE: STPXXXS - C72/Nmh+



POWER OUTPUT **550-570W**      MAX EFFICIENCY **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) \*

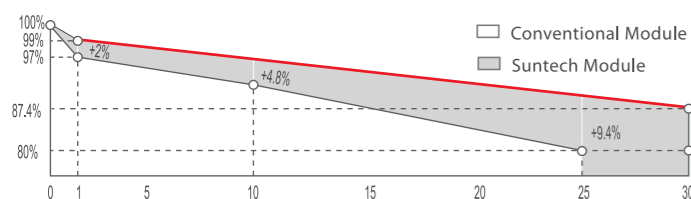


**Excellent weak light performance**  
More power output in weak light condition, such as cloudy, morning and sunset



**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: 12 years
- ◆ linear warranty: 30 years

### Certifications and Standards

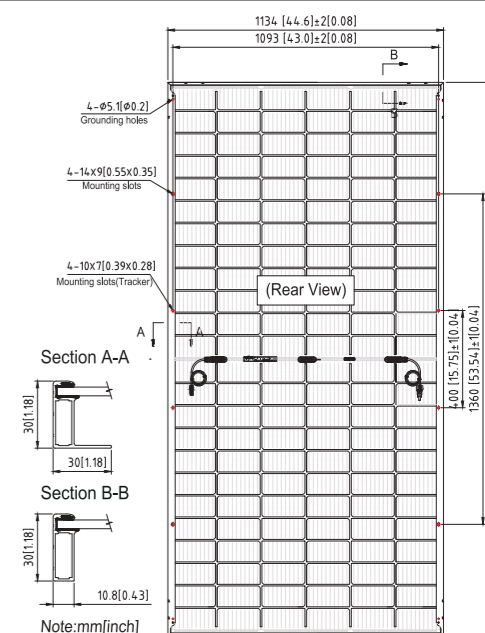
CE IEC 61730 IEC 61215  
SA 8000 Social Responsibility Standards  
ISO 9001 Quality Management System  
ISO 14001 Environment Management System  
ISO 45001 Occupational Health and Safety  
IEC TS 62941 Guideline for module design qualification and type approval



# Ultra V Pro STPXXXS - C72/Nmh+ 550-570W

### Mechanical Characteristics

Solar Cell	N-type Monocrystalline silicon 182mm
No. of Cells	144 (6 × 24)
Dimensions	2278 × 1134 × 30mm (89.7 × 44.6 × 1.2inches)
Weight	32.0kgs (70.5lbs.)
Front\ Back Glass	2.0+2.0mm (0.079+ 0.079inches) semi-tempered glass
Output Cables	4.0mm <sup>2</sup> (-) 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)
Connectors	MC4 EVO2, Cable01S, STP-XC4
Maximum Series Fuse Rating	25A
Power Tolerance	0/+5W
Refer. Bifaciality Factor	(80 ± 5)%
Packing Configuration	Packaging box dimensions (mm) : 2310×1120×1255 Packaging box weight (kg) : 1202 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 570 S-C72/Nmh+		STP 565 S-C72/Nmh+		STP 560 S-C72/Nmh+		STP 555 S-C72/Nmh+		STP 550 S-C72/Nmh+	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	570	434.6	565	430.7	560	426.9	555	423.2	550	419.3
Optimum Operating Voltage (Vmp/V)	42.44	40.1	42.32	39.9	42.20	39.8	42.08	39.7	41.95	39.6
Optimum Operating Current (Imp/A)	13.43	10.85	13.35	10.79	13.27	10.72	13.19	10.66	13.11	10.59
Open Circuit Voltage (Voc/V)	51.16	48.6	51.03	48.5	50.90	48.3	50.77	48.2	50.64	48.1
Short Circuit Current (Isc/A)	14.16	11.42	14.08	11.35	14.00	11.29	13.92	11.22	13.84	11.16
Module Efficiency (%)	22.1		21.9		21.7		21.5		21.3	

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20 °C, AM=1.5, wind speed 1 m/s; Tolerance of Pmax is within +/- 3%;

### Different Rearside Power Gain Reference to 560S Front

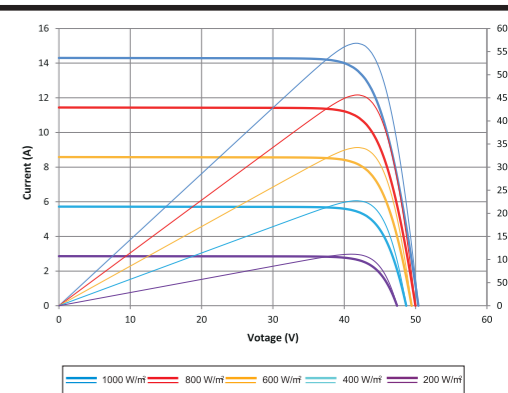
Rearside Power Gain	5%	15%	25%
Maximum Power at STC (Pmax)	588.0	644.0	700.0
Optimum Operating Voltage (Vmp/V)	42.2	42.2	42.3
Optimum Operating Current (Imp/A)	13.93	15.26	16.59
Open Circuit Voltage (Voc/V)	50.9	50.9	51.0
Short Circuit Current (Isc/A)	14.70	16.10	17.50
Module Efficiency (%)	22.8	24.9	27.1

### Temperature Characteristics

Nominal Module Operating Temperature (NMOT)	42 ± 2 °C
Temperature Coefficient of Pmax	-0.30%/°C
Temperature Coefficient of Voc	-0.25%/°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 (570S)

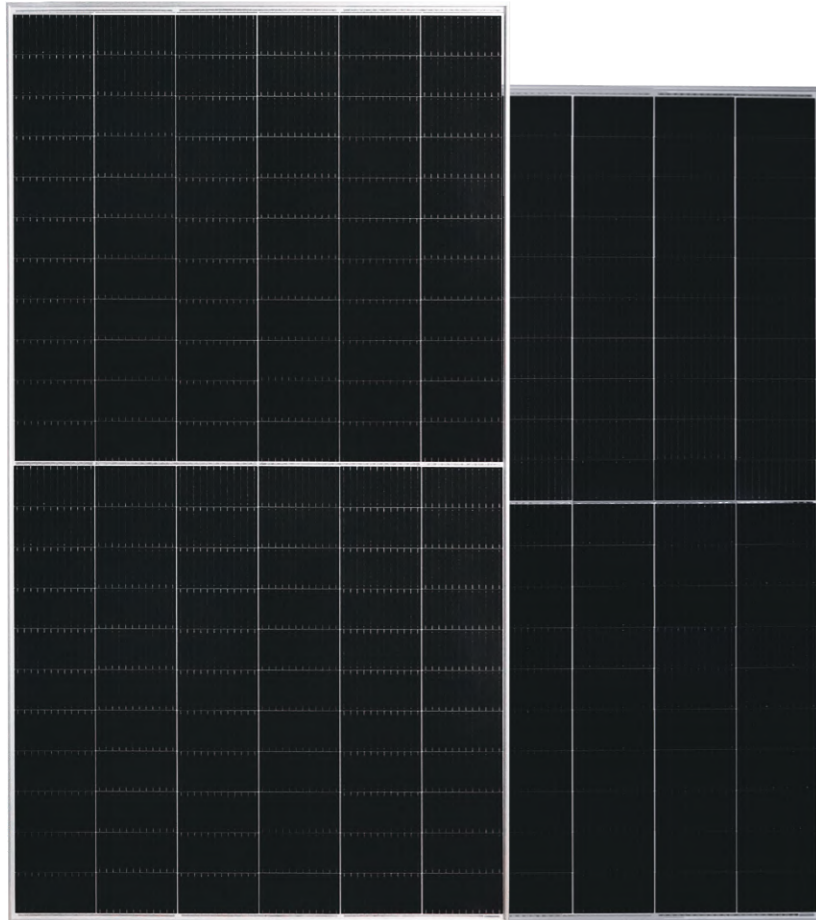


\* Please refer to Suntech Standard Module Installation Manual for details.  
\*\* Please refer to Suntech Limited Warranty for details.

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

# 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.

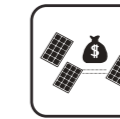
## Features



Weak Light



2400/5400Pa



Lower BoS Cost



Lower Working Temperature



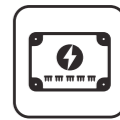
Higher Output



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	D66-Wmh	650-670	132	2384×1303×35	34.5
	D66-Pmh+	650-670	132	2384×1303×35	39.9

Note: See datasheet for details.



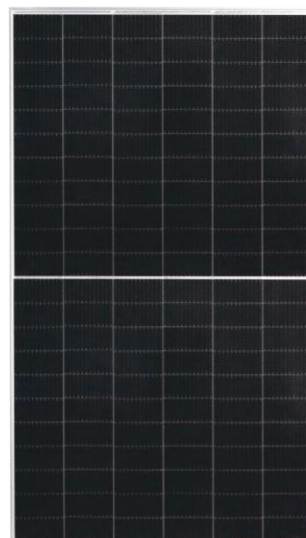
# Ultra X Plus

## HALF-CELL MONOFACIAL MODULE

TYPE: STPXXXS - D66/Wmh

POWER OUTPUT  
**650-670W**

MAX EFFICIENCY  
**21.6%**



### Features



**High module conversion efficiency**  
Module efficiency up to **21.6%** 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**)\*

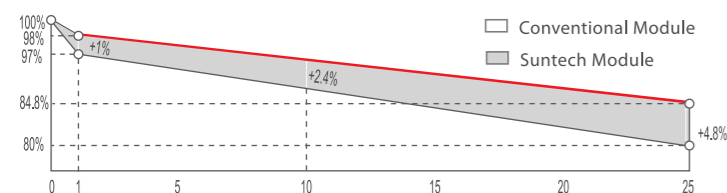


**Excellent weak light performance**  
More power output in weak light condition, such as cloudy, morning and sunset



**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: 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

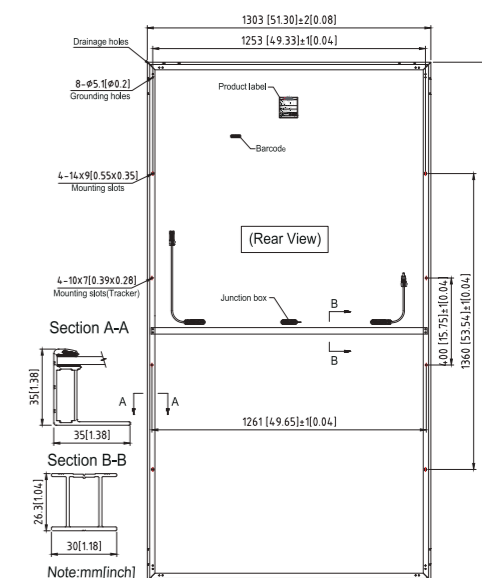


# Ultra X STPXXXS - D66/Wmh 650-670W

### Mechanical Characteristics

Solar Cell	Monocrystalline silicon 210mm
No. of Cells	132 (6 × 22)
Dimensions	2384 × 1303 × 35mm (93.9 × 51.3 × 1.4inches)
Weight	34.5kgs (76.1lbs.)
Front Glass	3.2mm (0.126inches) fully tempered glass
Output Cables	4.0mm <sup>2</sup> (-) 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)
Connectors	MC4 EVO2, Cable01S, STP-XC4
Maximum Series Fuse Rating	30A
Power Tolerance	0/+5W

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



### Electrical Characteristics

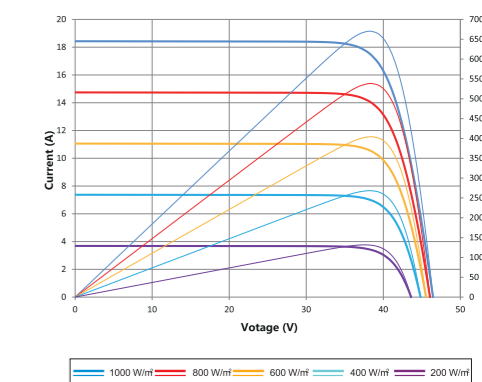
Module Type	STP 670 S-D66/Wmh		STP 665 S-D66/Wmh		STP 660 S-D66/Wmh		STP 655 S-D66/Wmh		STP 650 S-D66/Wmh	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	670	505.5	665	501.7	660	497.9	655	494.1	650	490.3
Optimum Operating Voltage (Vmp/V)	38.45	35.8	38.25	35.7	38.05	35.6	37.85	35.4	37.65	35.2
Optimum Operating Current (Imp/A)	17.43	14.1	17.39	14.07	17.35	13.99	17.31	13.96	17.27	13.92
Open Circuit Voltage (Voc/V)	46.45	43.7	46.25	43.5	46.05	43.4	45.85	43.2	45.65	43.0
Short Circuit Current (Isc/A)	18.43	14.87	18.39	14.84	18.35	14.76	18.31	14.73	18.27	14.7
Module Efficiency (%)	21.6		21.4		21.2		21.1		20.9	

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m<sup>2</sup>, 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	-0.34%/°C
Temperature Coefficient of Voc	-0.26%/°C
Temperature Coefficient of Isc	0.050%/°C

### Graphs Current-Voltage & Power-Voltage Curve (670S)



### Packing Configuration

Container	40' HC
Pieces per container	558

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.

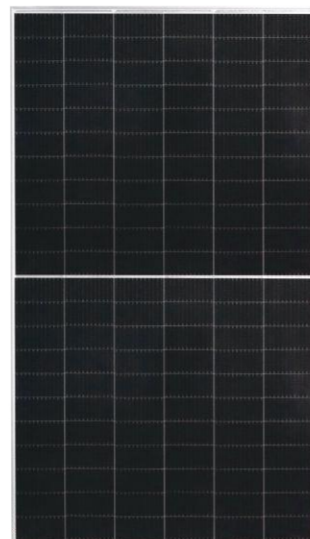
\* Please refer to Suntech Standard Module Installation Manual for details.  
\*\* Please refer to Suntech Limited Warranty for details.

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

# Ultra X Plus

## HALF-CELL BIFACIAL MODULE

TYPE: STPXXXS - D66/Pmh+



POWER OUTPUT  
**650-670W**

MAX EFFICIENCY  
**21.6%**

### Features



**High module conversion efficiency**  
Module efficiency up to **21.6%** 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) \*

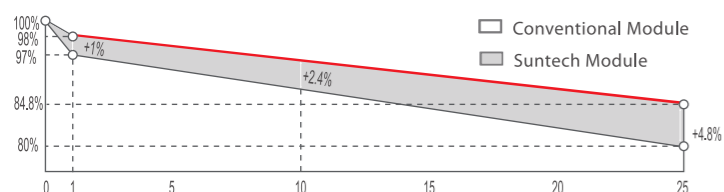


**Excellent weak light performance**  
More power output in weak light condition, such as cloudy, morning and sunset



**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: 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

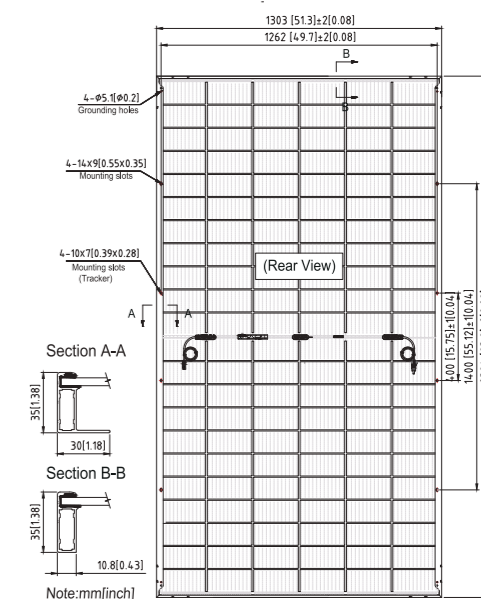


# Ultra X STPXXXS - D66/Pmh+ 650-670W

### Mechanical Characteristics

Solar Cell	Monocrystalline silicon 210mm
No. of Cells	132(6 × 22)
Dimensions	2384 × 1303 × 35mm (93.9 × 51.3 × 1.4inches)
Weight	39.9kgs (88.0lbs.)
Front\ Back Glass	2.0+2.0mm (0.079+ 0.079inches) semi-tempered glass
Output Cables	4.0mm <sup>2</sup> (-) 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	30A
Power Tolerance	0/+5W
Refer. Bifaciality Factor	(70 ± 5)%
Packing Configuration	558 Pieces per container / 40 ' HC

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



### Electrical Characteristics

Module Type	STP 670 S-D66/Pmh+		STP 665 S-D66/Pmh+		STP 660 S-D66/Pmh+		STP 655 S-D66/Pmh+		STP 650 S-D66/Pmh+	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	670	505.5	665	501.7	660	497.9	655	494.1	650	490.3
Optimum Operating Voltage (Vmp/V)	38.45	35.8	38.25	35.7	38.05	35.6	37.85	35.4	37.65	35.2
Optimum Operating Current (Imp/A)	17.43	14.10	17.39	14.07	17.35	13.99	17.31	13.96	17.27	13.92
Open Circuit Voltage (Voc/V)	46.45	43.7	46.25	43.5	46.05	43.4	45.85	43.2	45.65	43.0
Short Circuit Current (Isc/A)	18.43	14.87	18.39	14.84	18.35	14.76	18.31	14.73	18.27	14.70
Module Efficiency (%)	21.6		21.4		21.2		21.1		20.9	

STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM=1.5; NMOT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20 °C, AM=1.5, wind speed 1 m/s; Tolerance of Pmax is within +/- 3%;

### Different Rearside Power Gain Reference to 660S Front

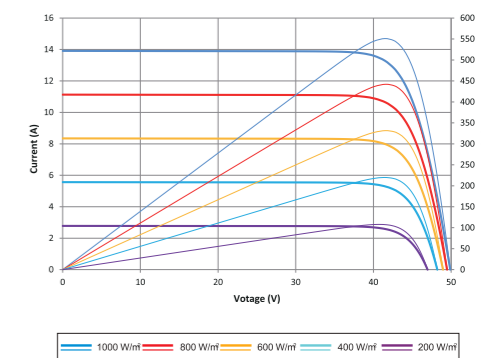
Rearside Power Gain	5%	15%	25%
Maximum Power at STC (Pmax)	693.0	759.0	825.0
Optimum Operating Voltage (Vmp/V)	38.1	38.1	38.2
Optimum Operating Current (Imp/A)	18.22	19.95	21.69
Open Circuit Voltage (Voc/V)	46.1	46.1	46.2
Short Circuit Current (Isc/A)	19.27	21.10	22.94
Module Efficiency (%)	22.3	24.4	26.6

### Temperature Characteristics

Nominal Module Operating Temperature (NMOT)	42 ± 2 °C
Temperature Coefficient of Pmax	-0.34%/°C
Temperature Coefficient of Voc	-0.26%/°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.

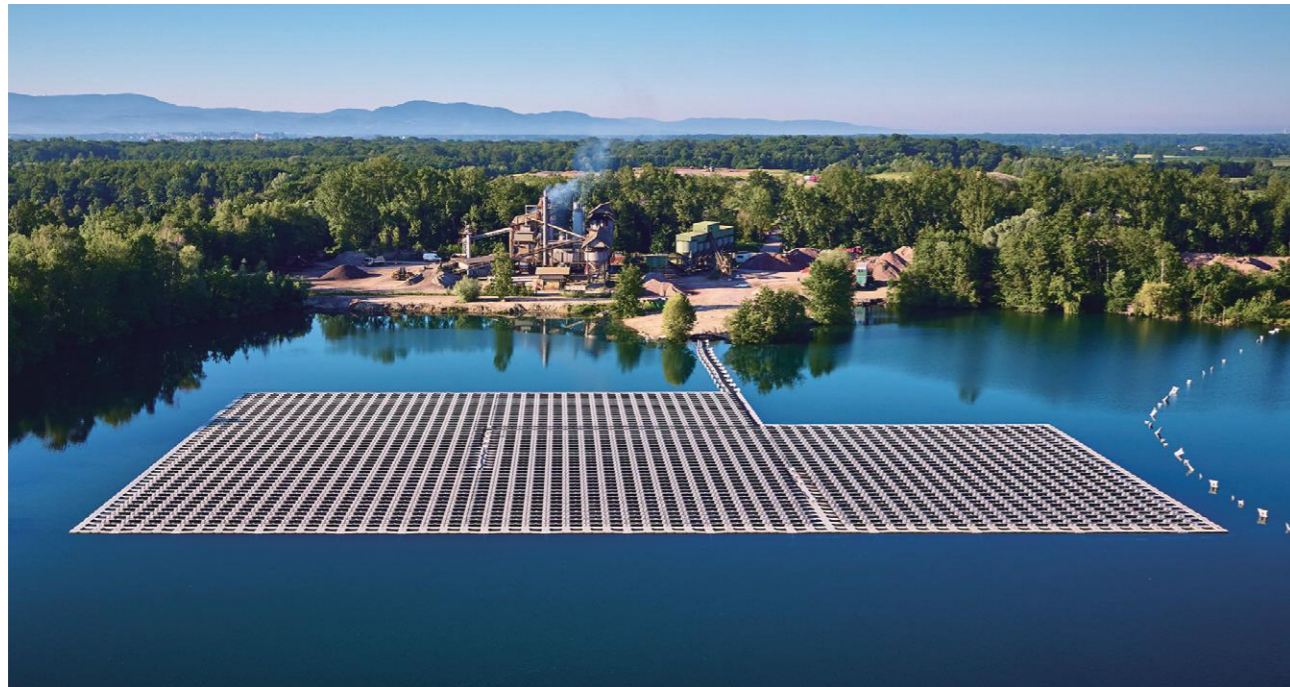
### Graphs Current-Voltage & Power-Voltage (670S)



\* 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.

# 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



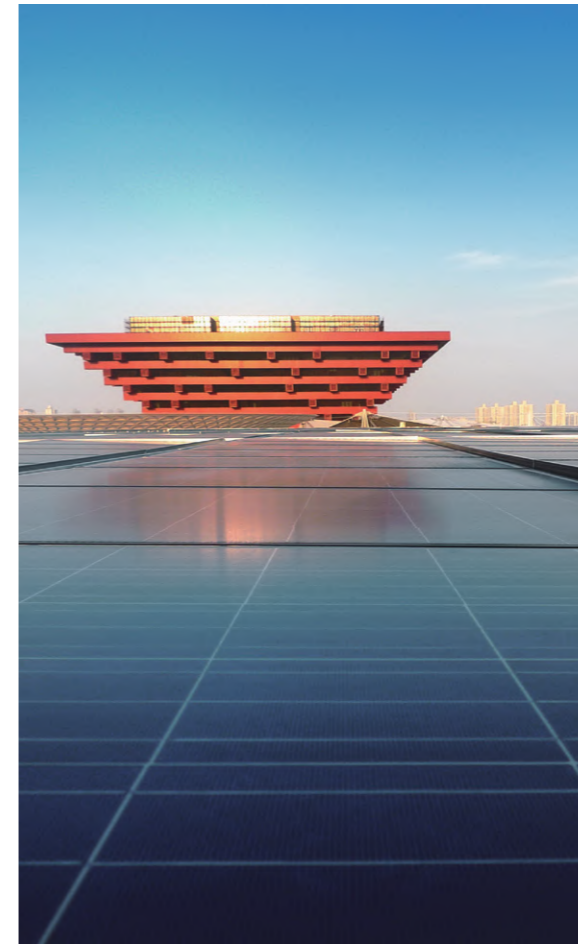
Kowa Elementary School BIPV Project  
Japan  
System Capacity: 10 KW



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