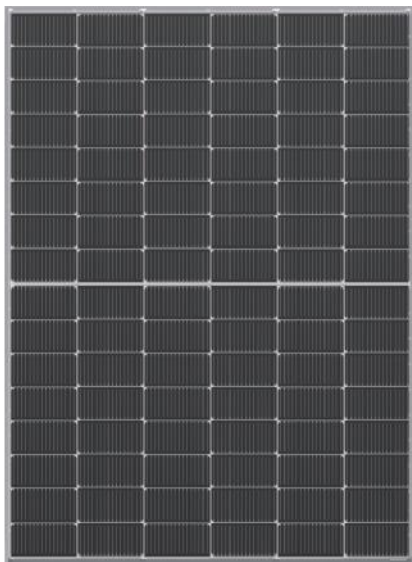


# Ultra V Pro mini

HALF-CELL N-Type TOPCon  
Glass-Glass MONOFACIAL MODULE  
TYPE: STPXXXS - H48-Nkh+

**435-455W** **22.8%**  
POWER OUTPUT MAX EFFICIENCY



### High module conversion efficiency

Module efficiency up to **22.8%** achieved through advanced cell technology and manufacturing process



### Multi busbar technology

Superior optical utilization and current collection capability, effectively improving product power and reliability



### Excellent low light performance

More power output in low light conditions such as cloudy days, mornings and evenings



### Extended wind and snow load tests

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

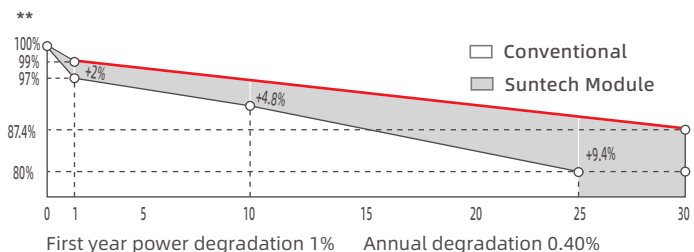


ISO 14001 Environment Management System  
ISO 45001 Occupational Health and Safety  
ISO 9001 Quality Management System  
SA 8000 Social Responsibility Standards  
IEC TS 62941 Guideline for Module Design

IEC 61701 Salt-mist certification  
IEC 62716 ammonia certification  
IEC 60068-2-68 Dust and Sand  
IEC 61730-2 (UL790) fire class C



**30** years of linear warranty  
**15** years of product warranty



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

\*\* Please refer to Suntech Limited Warranty for details.

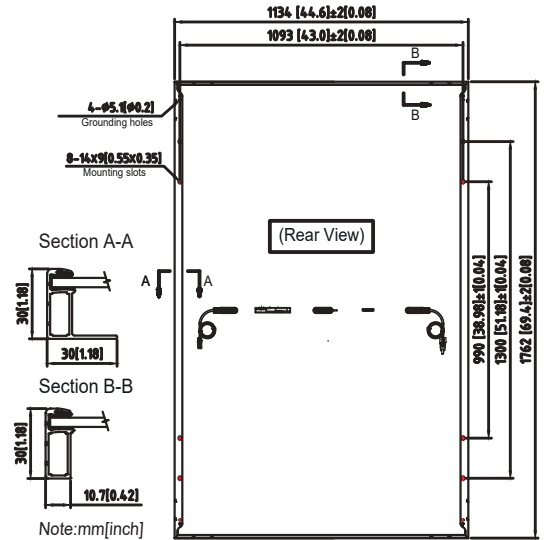
\*\*\* WEEE only for EU market.

\*\*\*\* Suntech reserves the right to the final.

# Ultra V Pro STPXXXS-H48-Nkh+ 435-455W

## Mechanical Characteristics

Solar Cell	N-type Monocrystalline silicon
No. of Cells	96 (6 × 16)
Dimensions	1762 × 1134 × 30 mm (69.4 × 44.6 × 1.2 inches)
Weight	21.5 kg (47.40lbs.)
Front/Back Glass	1.6+1.6 mm (0.063+ 0.063inches) semi-tempered glass
Output Cables	4.0 mm <sup>2</sup> , (-) 350 mm (+) 160 mm in length or customized length
Junction Box	IP68 rated (3 bypass diodes)
Operating Module Temperature	-40 °C to +85 °C
Maximum System Voltage	1500 V DC (IEC)
Connectors	STP-XC4
Maximum Series Fuse Rating	35 A
Power Tolerance	0/+5 W
Refer. Bifaciality Factor	(80 ± 5)%
Frame	Anodized aluminum alloy frame
Packing Configuration	36 Pieces per pallet 936 Pieces per container /40'HC 1796×1120×1255 816kg



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

## Electrical Characteristics

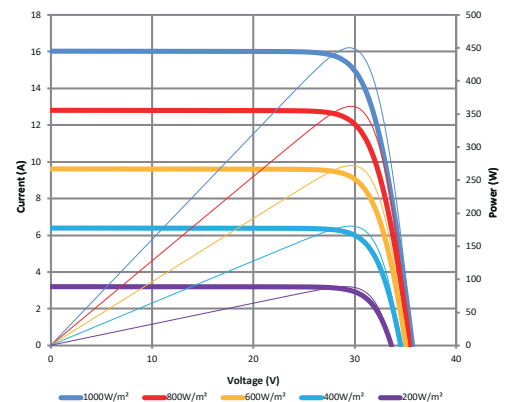
Module Type	STP455S-H48-Nkh+		STP450S-H48-Nkh+		STP445S-H48-Nkh+		STP440S-H48-Nkh+		STP435S-H48-Nkh+	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	455	347.3	450	343.4	445	339.6	440	335.8	435	332.0
Optimum Operating Voltage (Vmp/V)	29.49	28.10	29.32	28.00	29.14	27.80	28.97	27.60	28.79	27.40
Optimum Operating Current (Imp/A)	15.43	12.35	15.35	12.29	15.27	12.23	15.19	12.16	15.11	12.10
Open Circuit Voltage (Voc/V)	35.92	34.10	35.71	33.90	35.50	33.70	35.29	33.50	35.08	33.30
Short Circuit Current (Isc/A)	16.09	12.97	16.01	12.91	15.93	12.84	15.85	12.78	15.77	12.72
Module Efficiency (%)	22.8		22.5		22.3		22.0		21.8	

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; Measuring Tolerance is within +/- 3%;

## Different Rearside Power Gain Reference to 455W Front

Rearside Power Gain	5%	15%	25%
Maximum Power at STC (Pmax)	477.8	523.3	568.8
Optimum Operating Voltage (Vmp/V)	29.5	29.5	29.6
Optimum Operating Current (Imp/A)	16.20	17.74	19.29
Open Circuit Voltage (Voc/V)	35.9	35.9	36.0
Short Circuit Current (Isc/A)	16.89	18.50	20.11
Module Efficiency (%)	23.9	26.2	28.5

## Graphs Current-Voltage & Power-Voltage (455W)



## Temperature Characteristics

Nominal Module Operating Temperature (NMOT)	42 ± 2 °C
Temperature Coefficient of Pmax	-0.29%/°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.