HT-SAAE.PV

Reliable State - Owned Enterprise Deliver Solar Power Since 1960s

HT78-18X(ND)-F

Double Glass TOPCon PV Module

HIGH High power

Shanghai Aerospace Automobile Electromechanical Co., Ltd.
Website：www.ht-saae.com
E-mail：pvmarketing@ht-saae.com

Factory:
Lianyungang Shenzhou New Energy CO., Ltd.

635W/640W

645W/650W/655W



- Module Efficiency 23.4%
- No. of Cells 156(6×26)
- Weight 35.5(±0.5)kg
- Dimensions 2465×1134×35mm
- Bifaciality 80(±5)%



Half cut cell technology can reduce the internal power loss and improve module overall power. Excellent heat dissipation avoids hot spot production.

15Ys

Products warranty

30Ys

Warranty on power output

EL

Microcrack resistant Double glass structure enhance reliability, double EL tested of high quality control.

Entire module certified to with stand extreme wind(2400 Pa) and snow loads (5400 Pa)

TOPCon

Double glass,The optimized number and width of main gate lines, Maximize the light receiving area of modules and Reduce module power consumption.

1500V

Designed for high voltage systems of up to 1500 VDC, increasing the string length of solar systems and saving on BoS costs.

2%

All the modules are sorted and packaged by amperage, reducing mismatch losses and maximizing system output.

0~+3%

Positive tolerance 0~+3% guaranteed

Anti **PID**

PID resistant

Comprehensive and first-rate certification system

IEC 61215, IEC 61730 Latest Standard
SA 8000,ISO 9001,ISO 14001 and ISO 45001 meeting the highest international standards
Strict quality control

MULTIWAY+

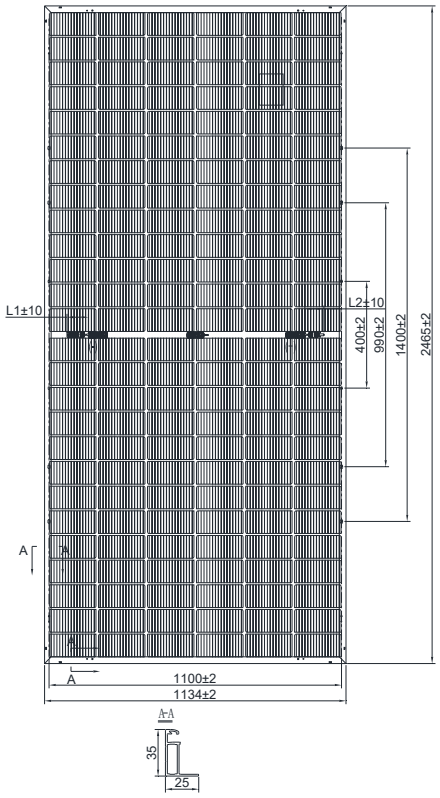
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MULTIWAY+

Better Choice For Higher Efficiency!

HT78-18X(ND)-F

635W/640W/645W/650W/655W



Electrical Characteristics (STC)

Module Type	HT78-18X(ND)-F				
Maximum Power(Pmax)	635W	640W	645W	650W	655W
Open Circuit Voltage(Voc)	55.9V	56.1V	56.2V	56.3V	56.4V
Short Circuit Current(Isc)	14.46A	14.53A	14.60A	14.67A	14.74A
Maximum Power Voltage(Vmp)	46.2V	46.4V	46.5V	46.6V	46.7V
Maximum Power Current(Imp)	13.75A	13.81A	13.88A	13.96A	14.04A
Module Efficiency	22.7%	22.9%	23.1%	23.3%	23.4%
Power Tolerance	0 ~ +3%				
Maximum System Voltage	1500V DC(IEC)				
Maximum Series Fuse Rating	25A				
Operating Temperature	-40℃ to +85℃				

* STC: AM 1.5, Irradiance 1000W/m², module temperature 25℃

Electrical Characteristics (NMOT)

Module Type	HT78-18X(ND)-F				
Maximum Power(Pmax)	483W	487W	490W	494W	498W
Open Circuit Voltage(Voc)	53.7V	53.9V	54.0V	54.0V	54.1V
Short Circuit Current(Isc)	11.65A	11.71A	11.77A	11.82A	11.88A
Maximum Power Voltage(Vmp)	44.4V	44.5V	44.6V	44.7V	44.8V
Maximum Power Current(Imp)	10.88A	10.94A	10.99A	11.05A	11.12A

* NMOT: Irradiance 800W/m², ambient temperature 20℃, wind speed 1m/s

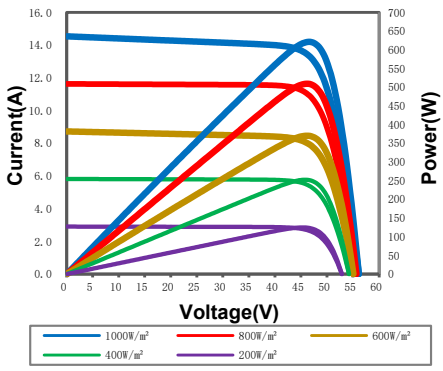
Bifacial output-rearside power gain

5%	Maximum Power(Pmax)	667W	672W	677W	683W	688W
	Module Efficiency	23.9%	24.0%	24.2%	24.4%	24.6%
15%	Maximum Power(Pmax)	730W	736W	742W	748W	753W
	Module Efficiency	26.1%	26.3%	26.5%	26.7%	26.9%
25%	Maximum Power(Pmax)	794W	800W	806W	813W	819W
	Module Efficiency	28.4%	28.6%	28.8%	29.1%	29.3%

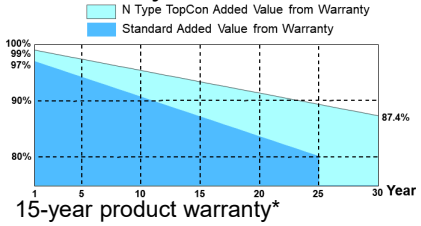
Nominal Module Operating Temperature(NMOT)		43±2℃
Temperature Coefficient of Pmax	γ (Pm)	-0.29%/℃
Temperature Coefficient of Voc	β (Voc)	-0.25%/℃
Temperature Coefficient of Isc	α (Isc)	0.046%/℃

Solar Cells	Monocrystalline
No. of Cells	156 (6×26)
Dimensions	2465×1134×35mm
Weight	35.5 (±0.5) kg
Glass (Front /Back)	High transmission coated tempered glass/Heat strengthened glass
Frame	Anodized aluminum alloy
Junction Box	IP68
Cable	4mm² (IEC) Length: (+) 200mm, (-) 300mm or customized
Connectors	MC4 / MC4 Compatible
Packaging Configuration	31 pcs/box: 496 pcs/ 40' HQ Container

• IV Curves



• Warranty



15-year product warranty*

30-year warranty on power output*

* Specific information is referred to the product quality guarantee

*The module recycling should be carried out by the professional institutions at the end of module life cycle

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