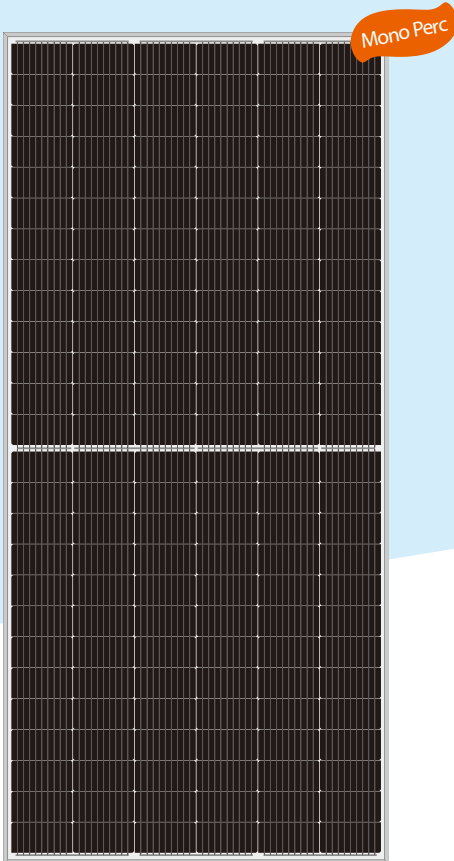


HCM78X9

435~460W

Half-Cell High Efficiency PV Module



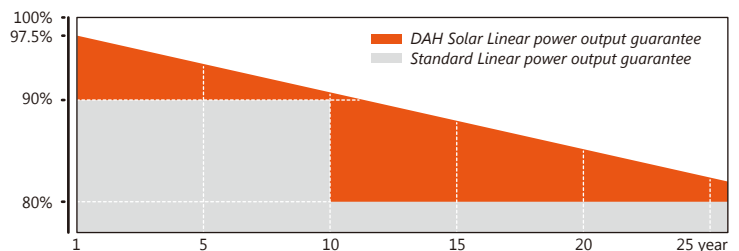
Comprehensive Products and System Certificates

IEC 61215 / IEC 61730
 ISO 9001: 2015 / Quality management system
 ISO 14001: 2015 / Standards for environmental management system
 OHSAS 18001: 2007 / International standards for occupational health & safety



Quality Guarantee

- 12-year** Material & technology warranty
- 25-year** Linear power output warranty



Max Module Efficiency

21.1%



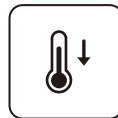
Half-cell & High eff.

9BB Half-cell technology, Higher output power



Less Shading Effect

Unique circuit design, Minimize shading effect



Lower Temperature

Lower temperature coefficient, Lower hot spot temperature



Weather Resistance

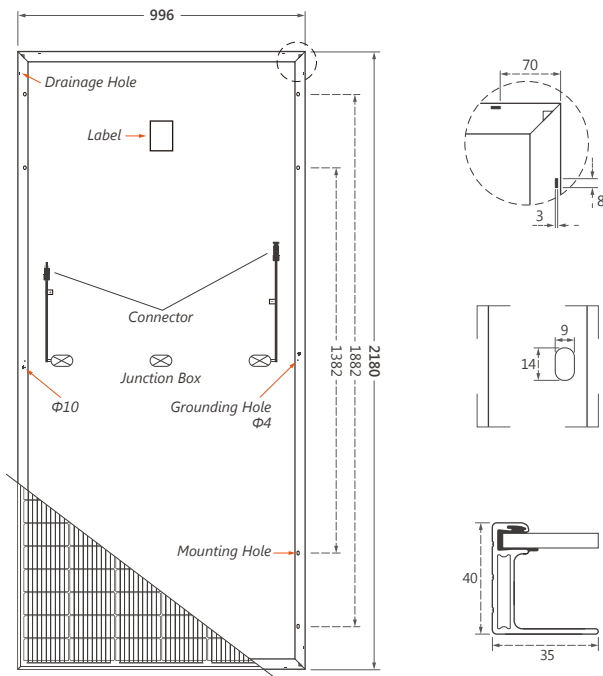
Pass Anti PID test. 100% double EL test, Minimizes micro-cracks



T6 Frame

T6 frame, better mechanical load, safer and more stable

Design



Mechanical Specification

Cells Type	Mono 158.75×79.375mm
Weight	24.5kg
Dimension (L×W×T)	2180×996×40mm
Cable	4.0mm ² , Portrait: 300mm(+)/400mm(-) Landscape: 1200mm(+)/1200mm(-)
No.of Cells	156(6×26)
Packing	27pcs/pallet, 270pcs/20GP, 580pcs/40HQ
Glass	3.2 mm High Transmission, Antireflection Coating
Junction box	IP68, 3 Bypass Diodes
Connector	MC4 Compatible

Operating Parameters

Maximum system voltage	1000V/1500V DC
Operating Temperature	-40 ~ +85°C
Maximum series fuse rating	20A
Snow load, frontside	5400Pa
Wind load, backside	2400Pa
Nominal operating cell temperature	42.3°C±2°C
Application level	Class A

Electrical Characteristics(STC)

Module Type	HCM78X9-435W	HCM78X9-440W	HCM78X9-445W	HCM78X9-450W	HCM78X9-455W	HCM78X9-460W
Maximum Power (Pmax)	435W	440W	445W	450W	455W	460W
Open-circuit Voltage (Voc)	52.9V	53.1V	53.3V	53.5V	53.7V	53.9V
Maximum Power Voltage (Vmp)	44.3V	44.5V	44.7V	44.9V	45.1V	45.3V
Short-circuit Current (Isc)	10.32A	10.37A	10.42A	10.47A	10.54A	10.61A
Maximum Power Current (Imp)	9.83A	9.89A	9.96A	10.03A	10.09A	10.16A
Module Efficiency (%)	20.0%	20.3%	20.5%	20.7%	20.9%	21.1%

Power Tolerance 0~+5W

Temperature Coefficient of Isc 0.05%/°C

Temperature Coefficient of Voc -0.31%/°C

Temperature Coefficient of Pmax -0.35%/°C

Standard Test Environment Irradiance 1000W/m², Cell temperature 25°C, Spectrum AM1.5

Electrical Characteristics(NOCT)

Module Type	HCM78X9-435W	HCM78X9-440W	HCM78X9-445W	HCM78X9-450W	HCM78X9-455W	HCM78X9-460W
Maximum Power (Pmax)	328W	332W	336W	339W	342W	346W
Open-circuit Voltage (Voc)	51.2V	51.4V	51.6V	51.8V	52.0V	52.2V
Maximum Power Voltage (Vmp)	42.9V	43.1V	43.3V	43.5V	43.7V	43.9V
Short-circuit Current (Isc)	8.17A	8.21A	8.26A	8.30A	8.34A	8.39A
Maximum Power Current (Imp)	7.66A	7.71A	7.76A	7.80A	7.83A	7.89A

Standard Test Environment Irradiance 800W/m², Cell temperature 20°C, Spectrum AM1.5, Wind speed 1m/s