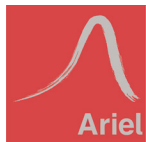


Tier1

BloombergNEF



Lloyd's Syndicate 1910



ISO14001

ISO9001

ISO45001



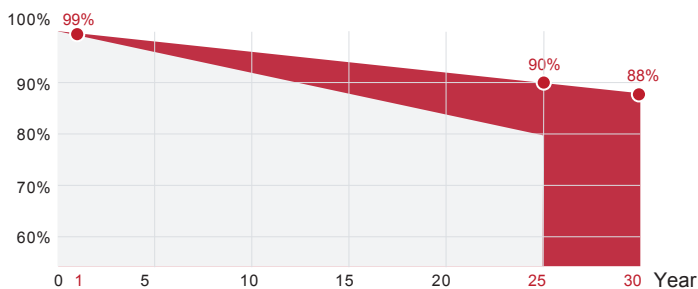
M6 HIEFF TWIN MONO (HJT)

SP-144DSNXXX

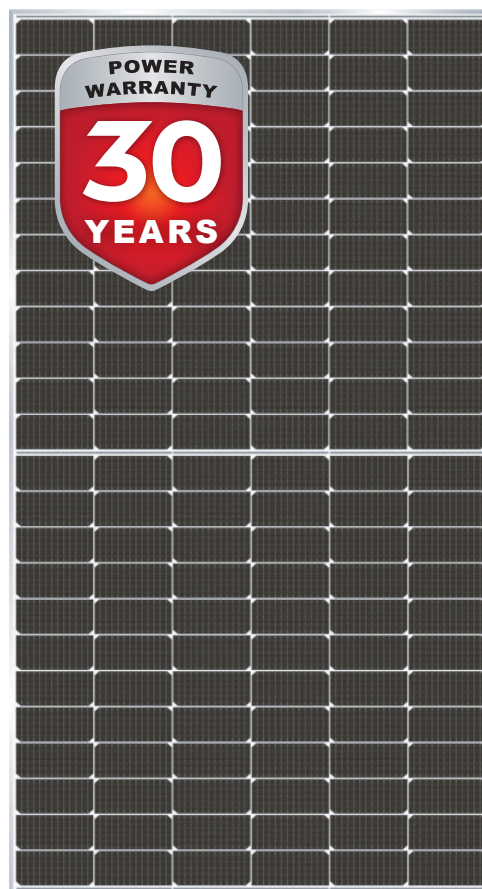
- Bifacial Transparent (xxx=460~480W)
- Double glass
- Silver frame
- Black frame

15 Yr quality guarantee | 30Yr power warranty

- SUNPRO HJT module (Additional value from 30-year warranty)
- Common module



*SUNPRO Standard tiered warranty



WARRANTY & GUARANTEE

Linear output power guarantee
25 years: 90% power output
30 years: 88% power output



WITHSTAND STRONG

Snow load 5400Pa
Wind load 2400Pa



ADVANCED BIFACIAL EFFICIENCY

Bifaciality>95%, effectively improves backside power generation. A bifacial cell design that generates energy from both sides, capturing and converting more sunlight into power.



R&D AND PRODUCTION

Advanced production line. The leading solar cell cutting process and multi busbar design with SUNPRO Technology.



HIGH ENERGY YIELD

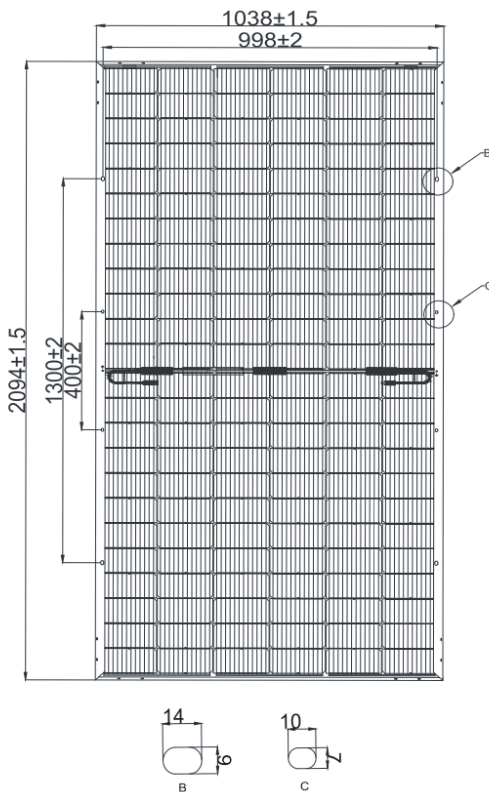
Efficiency can reach 22.08%. Excellent weak light performance and better performance in hot climate. Leading temperature coefficient for more production when the sun shines strongest, Or under the cloudy, haze condition

Electrical parameters at standard test conditions (STC:AM=1.5, 1000W/m², Cells Temperature 25°C)

Typical type

	460W	465W	470W	475W	480W
Max power(Pmax)	460	465	470	475	480
Max power voltage(Vmp)	44.57	44.63	44.69	44.75	44.81
Max power current(Imp)	10.34	10.43	10.53	10.63	10.73
Open circuit voltage(Voc)	53.48	53.58	53.68	53.78	53.88
Short circuit current(Isc)	10.84	10.94	11.04	11.14	11.24
Module Efficiency(%)	21.16	21.39	21.62	21.85	22.08
Max system voltage	DC 1500V(IEC)				
Maximum Series Fuse Rating	20A				

DIMENSIONS AND STRUCTURE



Electrical Characteristics with 15% Rear Side Power Gain

Front power Pmax/W	460W	465W	470W	475W	480W
Total power Pmax/W	515	520	525	530	535
Vmp/V(Total)	46.44	46.64	46.84	47.04	47.24
Imp/A(Total)	11.19	11.23	11.27	11.31	11.35
Voc/V(Total)	54.66	54.92	55.37	55.97	56.63
Isc/A(Total)	11.58	11.61	11.64	11.66	11.69

Mechanical Data

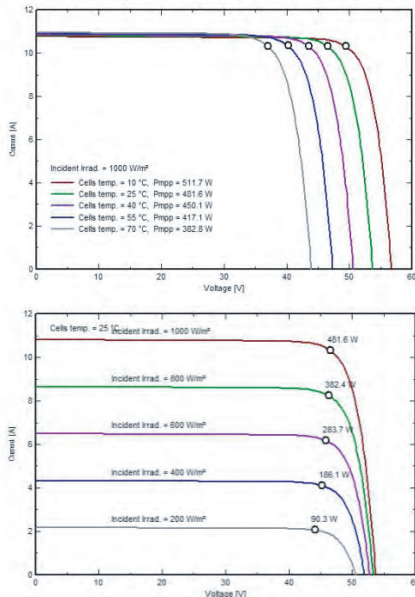
Dimensions	2094x1038x30mm
Weight	27.5kg
Glass	(F) 2.0mm Anti - reflective surface Solar glass (B) 2.0 mm full transparent Solar glass
Output cables	4mm ² , 1200mm in length, length can be customized / UV Resistant
Connectors	MC4 compatible IP68
Cell type	Mono-Crystalline ,Bifacial HJT, 12BB, 166x83mm
Number of cells	144cells (Half-Cell)

Temperature Characteristics

Packing Configuration

Temp.Coeff.of Isc(TK Isc)	0.046%/°C	Container	40'HQ
Temp.Coeff.of Voc(TK Voc)	-0.24%/°C	Pieces per pallet	36
Temp.Coeff.of Pmax(TK Pmax)	-0.26%/°C	Pallets per container	22
Operating temperature	-40~+85°C	Pieces per container	792
Normal operating cell temperature	44±2°C		

I-V CHARACTERISTICS AT DIFFERENT IRRADIATION



Tests, Certifications and Warranties

Standard tests	IEC 61215, IEC 61730, IEC 61701, IEC 62716, PPP 58042
System certs	ISO 9001, ISO14001, ISO45001
Certifications	TUV, CE, WEEE, INMETRO FIRE CERTIFICATE C1
Extreme wind and snow loads testing	Withstand extreme wind(2400 Pascal) and snow loads(5400 Pascal)
Power tolerance	0~+3%
Junction box	IP 68
Warranties	15 years product warranty and 30 years 88% of power