

NTOPCon Technology

JW-HD144N

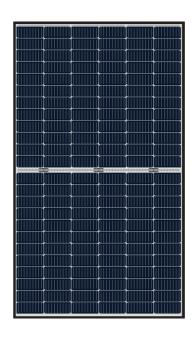
N-type Bifacial High Efficiency Mono Silicon Half-Cell Double Glass Module

455-470W

Cell Type



9BB



470W

Maximum Power Output

21.59%

Maximum Module Efficiency

 $0 \sim +5W$

Power Output Tolerance



Additional Power Generation Gain

At least 30-year product life, more than 10%- 30% additional power gain comparing with conventional module



Lower LCOE

High bifaciality, high power output, saving BOS cost



Wider Applicability

BIPV,vertical installation, snowfield, high-humid area, windy and dusty area



Better Weak Illumination Response

Wide spectral response, higher power output evenunder low-light settings like smog or cloudy days



Better Temperature Coefficient

Higher power generation under working conditions, thanks to passivating contact cell technology



- Leader of N-type bifacial technology
- Fully automatic facility and world-class technology
- Long term reliability tests passed
- 100% EL tests

Linear Performance Warranty



Additional Insurance Backed by Munich Re













Jolywood (Taizhou) Solar Technology Co., Ltd., a subsidiary under Jolywood Group (stock code: SZ300393), is the world leading N-type bifacial solar cells and modules manufacturer. The technology of NTOPCon, NIBC, TBC, etc, and the annual N-type bifacial production capacity reaches 2.1GW cells and 3GW modules. With vision of "Cultivator of Green Energy", Jolywood adheres to the road of advanced and high efficiency solar technology industrialization.

JW-HD144N Series N-type Bifacial High Efficiency Mono Silicon Half-Cell Double Glass Module

Electrical Properties	STC*			
Testing Condition	Front Side	Front Side	Front Side	Front Side
Peak Power (Pmax) (W)	455	460	465	470
MPP Voltage (Vmp) (V)	41.8	42.0	42.2	42.4
MPP Current (Imp) (A)	10.89	10.96	11.02	11.09
Open Circuit Voltage (Voc) (V)	50.2	50.4	50.6	50.8
Short Circuit Current (Isc) (A)	11.50	11.56	11.62	11.69
Module Efficiency (%)	20.90	21.13	21.36	21.59

*STC: Irradiance 1000 W/m², Cell Temperature 25°C, AM1.5 The data above is for reference only and the actual data is in accordance with the pratical testing Power Measurement Tolerance $\pm 3\%$

Electrical Properties	NOCT*			
Testing Condition	Front Side	Front Side	Front Side	Front Side
Peak Power (Pmax) (W)	344	348	352	356
MPP Voltage (Vmp) (V)	39.2	39.4	39.6	39.8
MPP Current (Imp) (A)	8.78	8.84	8.88	8.94
Open Circuit Voltage (Voc) (V)	48.0	48.2	48.4	48.6
Short Circuit Current (Isc) (A)	9.27	9.32	9.37	9.43

^{*}NOCT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s

Operating Properties Operating Temperature (°C) -40°C~+85°C Maximum System Voltage (V) 1500V (IEC) 25 Maximum Series Fuse Rating(A) Power Tolerance 0~+5W Bifaciality' 75% Fire class *Bifaciality=Pmaxrear (STC) /Pmaxfront (STC) , Bifaciality tolerance:±5%

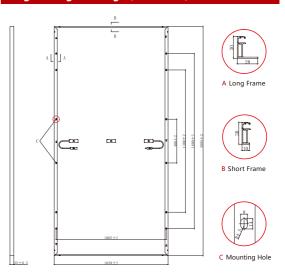
Temperature Coefficient		
Temperature Coefficient of Pmax*	-0.320%/°C	
Temperature Coefficient of Voc	-0.260%/°C	
Temperature Coefficient of Isc	+0.046%/°C	
Nominal Operating Cell Temperature (NOCT)	42+2°C	

^{*}Temperature Coefficient of Pmax $\pm 0.03\%$ /°C

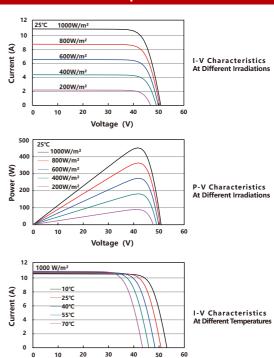
Mechanical Properties	
Cell Type	166.00mm*83.00mm
Number of Cells	144pcs(12*12)
Dimension	2095mm*1039mm*30mm
Weight	28kg
Front /Rear Glass*	2.0mm/2.0mm
Frame	Anodized Aluminium
Junction Box	IP68 (3 diodes)
Length of Cable*	4.0mm², 300mm
Connector *Heat strengthened glass *Cable length can be customized	QC Solar QC4.10-cd / Staubli EVO2

With Differe	nt Power Ge	neration Gain	(regarding	460W as an e	xample)
Power Gain (%)	Peak Power (Pmax) (W)	MPP Voltage (Vmp) (V)	MPP Current (Imp) (A)	Open Circuit Voltage (Voc) (V)	Short Circuit Current (Isc) (A)
10	495	42.0	11.77	50.4	12.40
15	512	42.0	12.18	50.4	12.83
20	529	42.0	12.58	50.4	13.25
25	546	42.1	12.99	50.5	13.67
30	564	42.1	13.39	50.5	14.09

Engineering Drawing (unit: mm)



Characteristic Curves | HD144N-460



Packaging Configuration				
Packing Type	20'GP	40'GP	40'HQ	
Piece/Pallet		36		
Pallet/Container	5	11	22	
Piece/Container	180	396	792	
*The specification and key				

Voltage (V)



REV: B

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Made in China

JOLYWOOD (TAIZHOU) SOLAR TECHNOLOGY CO.,LTD.

Add: No.6 Kaiyang Rd., Jiangyan Economic Development Zone,

Taizhou, Jiangsu Province, China, 225500

TEL: +86 523 80612799 **Email:** mkt@jolywood.cn



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