



REGIONE PUGLIA

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## PROVINCIA DI BRINDISI



COMUNE DI SAN PANCRAZIO SALENTINO

### AUTORIZZAZIONE UNICA EX D.Lgs 387/2003

### VALUTAZIONE IMPATTO AMBIENTALE EX. ART. 23

### D.Lgs 152/2006

**INSTALLAZIONE DI UN IMPIANTO DI PRODUZIONE DI ENERGIA DA FONTE SOLARE DENOMINATO "FATTORIA SOLARE SANTINO" DI POTENZA IN IMMISSIONE PARI A 5.999,00 kW E POTENZA DI PICCO PARI A 10.064,99 kW**

Codice di rintracciabilità: 242111521 - POD: IT001E752928550 - Id AU: 82SHKJ7



Codice identificativo elaborato:

**82SHKJ7\_ElaboratoGrafico\_1\_01**

DATA

Gennaio 2022

Titolo elaborato

**E2.7\_Schemi funzionali dei pannelli**

SCALA

-

#### REVISIONI

REV.	DATA	DESCRIZIONE	ESEGUITO	VERIFICATO	APPROVATO

Progettazione:



**STUDIO ENERGY SRL**  
Via delle Comunicazioni snc  
75100 Matera  
C/F. e P.IVA 01175590775

Tecnici:

**Dott. Ing. Calbi Francesco Rocco**



Il Proponente:

**REN 172 SRL**

REN 172 S.R.L.  
Salita Santa Caterina 2/1- 16123 Genova (GE)  
C.F./P.IVA 02644690998

LEGALE RAPPRESENTANTE



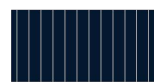
## NTOPCon Cell Technology

### JW-HD132N

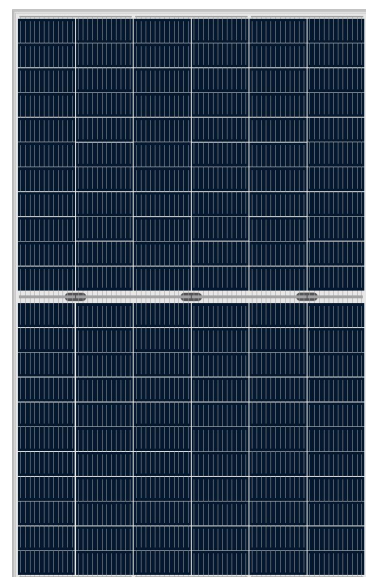
N-type Bifacial High Efficiency Mono Silicon Half-Cell Double Glass Module

670-695W

Cell Type



12BB



**695W**

Maximum Power Output

**22.37%**

Maximum Module Efficiency

**0~+5W**

Power Output Guarantee



#### Additional Power Generation Gain

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



#### ZERO LID (Light Induced Degradation)

N-type solar cell has no LID naturally, can increase power generation



#### Lower LCOE

High power and 1500V system voltage, saving BOS cost



#### Better Weak Illumination Response

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



#### Better Temperature Coefficient

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



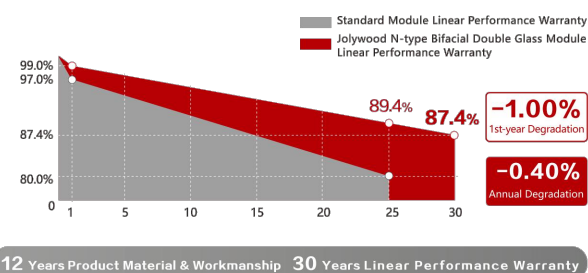
#### Wider Applicability

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

#### Jolywood Delivers Reliable Performance Over Time

- Leader of n-type bifacial technology
- Fully automatic facility and world-class technology
- Long term reliability tests
- 100% EL inspection ensuring defect-free modules

#### Linear Performance Warranty



#### Additional Insurance Backed by Munich Re



## JW-HD132N 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	Front Side	Front Side
Peak Power (Pmax) (W)	670	675	680	685	690	695
MPP Voltage (Vmp) (V)	38.4	38.6	38.8	39.0	39.2	39.4
MPP Current (Imp) (A)	17.46	17.50	17.54	17.58	17.62	17.67
Open Circuit Voltage (Voc) (V)	46.0	46.2	46.4	46.6	46.8	47.0
Short Circuit Current (Isc) (A)	18.52	18.57	18.62	18.67	18.72	18.76
Module Efficiency (%)	21.57	21.73	21.89	22.05	22.21	22.37

Electrical Properties	NOCT*					
Testing Condition	Front Side	Front Side	Front Side	Front Side	Front Side	Front Side
Peak Power (Pmax) (W)	507	511	514	518	522	526
MPP Voltage (Vmp) (V)	36.0	36.2	36.4	36.6	36.7	36.9
MPP Current (Imp) (A)	14.08	14.11	14.14	14.17	14.21	14.25
Open Circuit Voltage (Voc) (V)	44.0	44.2	44.3	44.5	44.7	44.9
Short Circuit Current (Isc) (A)	14.93	14.97	15.01	15.05	15.09	15.13

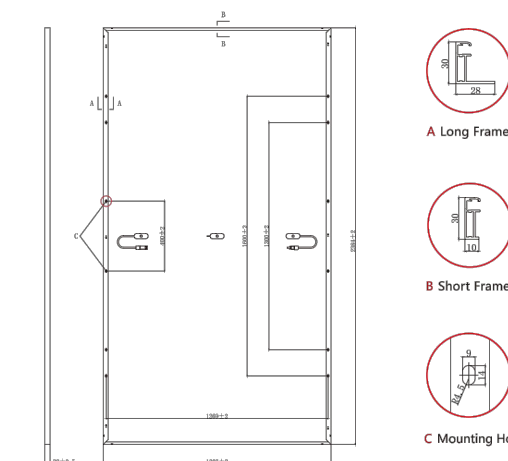
Operating Properties	
Operating Temperature (°C)	-40°C~+85°C
Maximum System Voltage (V)	1500V (IEC)
Maximum Series Fuse Rating(A)	30
Power Tolerance	0~+5W
Bifaciality*	80%

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

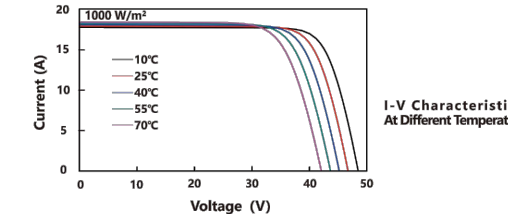
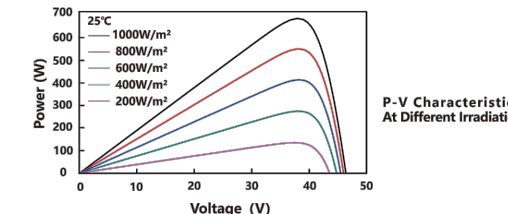
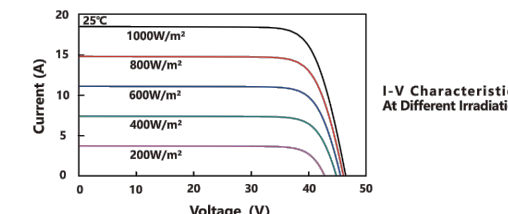
Mechanical Properties	
Cell Type	210.00mm*105.00mm
Number of Cells	132pcs(11*12)
Dimension	2384mm*1303mm*30mm
Weight	38kg
Front /Rear Glass*	2.0mm/2.0mm
Frame	Anodized Aluminium
Junction Box	IP67 (3 diodes)
Length of Cable*	4.0mm <sup>2</sup> , 300mm
Connector	MC4 Compatible

With Different Power Generation Gain (regarding 680W as an example)						
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	734	38.8	18.93	46.4	20.09	
15	762	38.8	19.62	46.4	20.83	
20	789	38.8	20.31	46.4	21.56	
25	816	38.8	21.00	46.4	22.30	
30	843	38.9	21.70	46.5	23.03	

#### Engineering Drawing (unit: mm)



#### Characteristic Curves | HD132N-680



#### Partner Section

NOTE:

\*The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Due to ongoing innovation, R&D enhancement, Jolywood (Taizhou) Solar Technology Co., Ltd. reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.



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 manufacture. The technology of company 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.



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