

TITLE:

AVAILABLE LANGUAGE: EN

PV MODULE

DATASHEET

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REV.	DATE	DESCRIPTION	PREPARED	VERIFIED	APPROVED

GRE VALIDATION

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COLLABORATORS	VERIFIED BY	VALIDATED BY

PROJECT / PLANT

EL MANZANO SOLAR

GRE CODE

GROUP	FUNCION	TYPE	ISSUER		COUNTRY		TEC	PLANT					SYSTEM		PROGRESSIVE			REVISION	
GRE	EEC	R	9	9	C	L	P	0	8	6	0	2	0	3	0	0	1	0	0

CLASSIFICATION

For Validation

UTILIZATION SCOPE

Issued for Construction

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Engineering & Construction



GRE CODE

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1. PV MODULE

The PV module considered is model HD120N-12BB-605-630-210. The power class considered for El Manzano Project are:

- 610 Peak Power (Pmax)(W)
- 615 Peak Power (Pmax)(W)

JW-HD120N

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

605-630W

Cell Type: 12BB



630W

Maximum Power Output

22.26%

Maximum Module Efficiency

0~+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



ZERO LID (Light Induced Degradation)

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



Lower LCOE

High bifaciality, high power output, 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



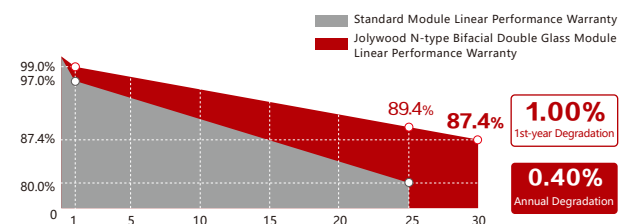
Wider Applicability

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 passed
- 100% EL tests

Linear Performance Warranty



12 Years Product Material & Workmanship 30 Years Linear Performance Warranty

Additional Insurance Backed by Munich Re



JW-HD120N 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 (P _{max}) (W)	605	610	615	620	625	630
MPP Voltage (V _{mp}) (V)	34.7	34.9	35.1	35.3	35.5	35.7
MPP Current (I _{mp}) (A)	17.45	17.49	17.53	17.58	17.62	17.66
Open Circuit Voltage (V _{oc}) (V)	41.5	41.7	41.9	42.1	42.3	42.5
Short Circuit Current (I _{sc}) (A)	18.45	18.50	18.55	18.60	18.65	18.70
Module Efficiency (%)	21.38	21.55	21.73	21.91	22.08	22.26

*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 practical testing

Electrical Properties | NOCT*

Testing Condition	Front Side	Front Side	Front Side	Front Side	Front Side	Front Side
Peak Power (P _{max}) (W)	458	461	465	469	473	477
MPP Voltage (V _{mp}) (V)	32.5	32.7	32.9	33.1	33.3	33.5
MPP Current (I _{mp}) (A)	14.07	14.10	14.13	14.17	14.21	14.24
Open Circuit Voltage (V _{oc}) (V)	39.7	39.9	40.0	40.2	40.4	40.6
Short Circuit Current (I _{sc}) (A)	14.88	14.92	14.96	15.00	15.04	15.08

*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)
Maximum Series Fuse Rating(A)	30
Power Tolerance	0~+5W
Bifaciality*	75%

*Bifaciality=P_{maxrear} (STC) /P_{maxfront} (STC) , Bifaciality tolerance:±5%

Temperature Coefficient

Temperature Coefficient of P _{max} *	-0.320%/°C
Temperature Coefficient of V _{oc}	-0.260%/°C
Temperature Coefficient of I _{sc}	+0.046%/°C
Nominal Operating Cell Temperature (NOCT)	42±2°C

*Temperature Coefficient of P_{max}±0.03%/°C

Mechanical Properties

Cell Type	210.00mm*105.00mm
Number of Cells	120pcs(12*10)
Dimension	2172mm*1303mm*35mm
Weight	35.5kg
Front /Rear Glass*	2.0mm/2.0mm
Frame	Anodized Aluminium
Junction Box	IP68 (3 diodes)
Length of Cable*	4.0mm ² , 300mm
Connector	MC4 Compatible

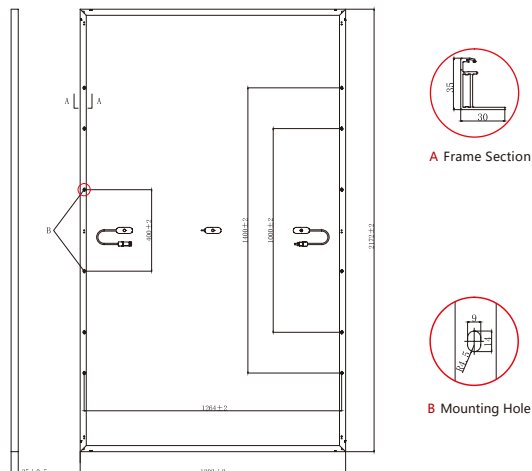
*Heat strengthened glass

*Cable length can be customized

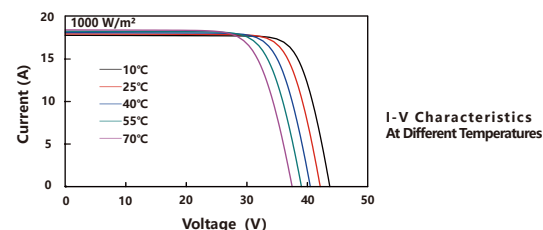
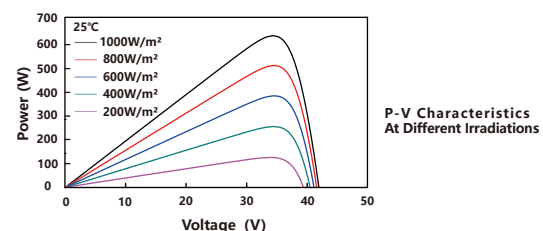
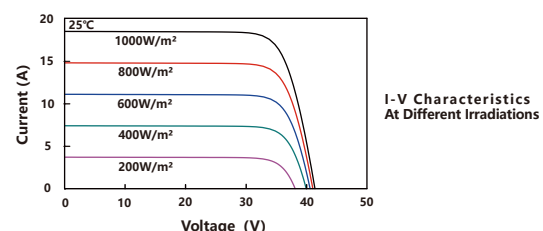
With Different Power Generation Gain (regarding 620W as an example)

Power Gain (%)	Peak Power (P _{max}) (W)	MPP Voltage (V _{mp}) (V)	MPP Current (I _{mp}) (A)	Open Circuit Voltage (V _{oc}) (V)	Short Circuit Current (I _{sc}) (A)
10	670	35.3	18.97	42.1	20.07
15	694	35.3	19.66	42.1	20.80
20	719	35.3	20.36	42.1	21.54
25	744	35.3	21.05	42.1	22.27
30	769	35.4	21.75	42.2	23.01

Engineering Drawing (unit: mm)



Characteristic Curves | HD120N-620



Packaging Configuration

Packing Type	40'HQ
Piece/Pallet	31
Pallet/Container	18
Piece/Container	558

*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.



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