

# TRANSFORMING THE POWER OF SUN













## NEXT GEN BIFACIAL SOLAR PV MODULE 400-415 Wp

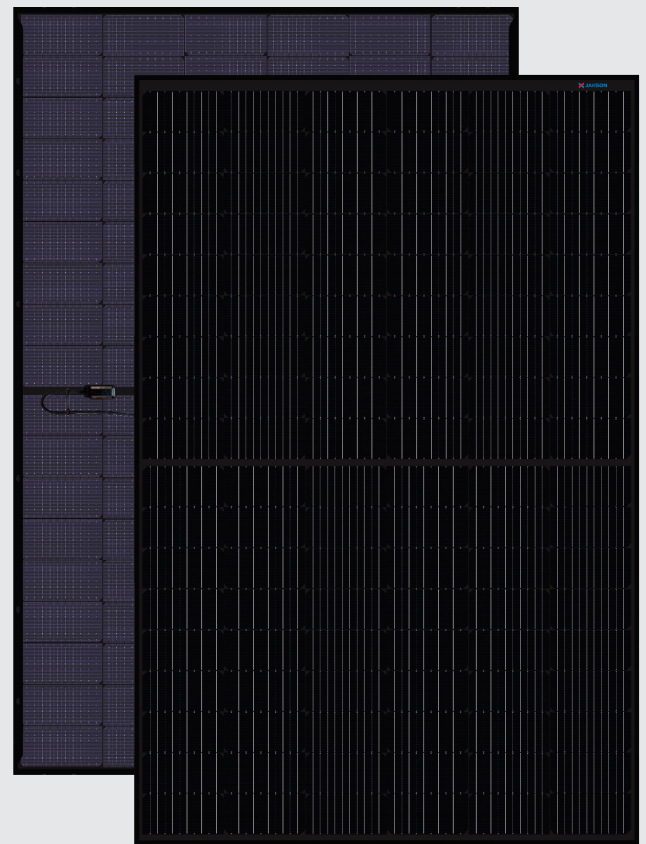
Best in Class Efficiency **21.27%**

MBB Technology **M10 Half Cut (108 Cells)**  
Bifacial Module with Transparent Backsheet  
(Black Grid)

Latest Water-less  
**Non-Destructive Cell Cutting (NDC)**

### FEATURES

-  Low LID Degradation using PERC Technology - Enhanced Power Generation During its Life Cycle
-  Improved Temperature Coefficients - Better Generation at Higher Temperature
-  Reduced Resistive Loss with MBB Technology - Excellent Module Performance
-  Half Cut Cell Design - Excellent Performance Under Partial Shading Conditions
-  Lower LCOE (Levelized Cost of Electricity) - Faster Return on Investment (ROI)
-  Manufactured in Fully Automatic Production Line
-  100% in line Hi-Pot testing, 100% EL Testing at 3 stages – Stringer, In process and Final Testing
-  Manufactured using certified Tier 1 BOM Meeting Highest Quality Standards
-  Innovative All Black Design to enhance the aesthetics of your Residential, Industrial Building
-  Bifacial gain of **Up To 25% with Transparent Backsheet Module**, capable of energy generation with both direct and reflected sunlight.



FRAME

FRONT  
SUPERSTRATE

BACK  
SUBSTRATE

BLACK

ARC GLASS

BLACK  
TRANSPARENT  
BACKSHEET

### Approvals and Certificates\*:

IEC 61215, IEC 61730 (I & II), IEC 61853, IEC 62804, IEC 60068, IEC 61701, IEC 62716, IS 14286 (BIS), UL 61730, CEC, ISO 9001:2015, 14001:2015, 45001:2018 certified



\* Under Process

**ELECTRICAL DATA - STC\* & NOCT\*\***

Model	Unit	JH-400BB		JH-405BB		JH-410BB		JH-415BB	
		STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Capacity rating Wp	Pmax	400	297	405	301	410	305	415	309
Max. Power Voltage in V	Vpm	30.85	29.00	31.06	29.16	31.26	29.30	31.42	29.44
Max. Power Current in A	Ipm	12.97	10.24	13.04	10.32	13.12	10.41	13.21	10.49
Open Circuit Voltage in V	Voc	36.76	34.59	36.94	34.77	37.12	34.93	37.30	35.10
Short Circuit Current in A	Isc	13.86	11.09	13.92	11.14	13.98	11.19	14.05	11.25
Module Efficiency	%	20.50		20.76		21.01		21.27	
Power Tolerance	Wp	-0/+4.99							

\*STC: Irradiance 1000 W/m<sup>2</sup>, cell temperature 25°C, Air Mass AM 1.5 according to EN 60904-3. Average efficiency reduction of 4.5% at 200 W/m<sup>2</sup> according to EN 60904-1. Measurement uncertainty ±3%

\*\*NOCT irradiance 800 W/m<sup>2</sup>, ambient temperature 20°C, wind speed 1 m/sec.

**BI-FACIAL OUTPUT - REAR SIDE POWER GAIN\***

Model		JH-400BB	JH-405BB	JH-410BB	JH-415BB
10%	Power Output (W)	440	446	451	457
	Module Efficiency (%)	22.55	22.86	23.12	23.42
15%	Power Output (W)	460	466	472	477
	Module Efficiency (%)	23.58	23.88	24.19	24.45
20%	Power Output (W)	480	486	492	498
	Module Efficiency (%)	24.60	24.91	25.22	25.53
25%	Power Output (W)	500	506	513	519
	Module Efficiency (%)	25.63	25.94	26.29	26.60
Bifaciality Factor		55±5%			

\*Bifaciality gain is dependent on various factors (Ground Reflectance, Tilt Angle, Location, etc.)

**MECHANICAL DATA**

Dimensions (L x W x H)	MM: 1722 x 1133 x 35   IN: 67.79 x 44.60 x 1.37
Weight	21.5 kgs   47.39 lbs
Junction Box	Split JB, IP 68 with 3 bypass diodes
Cable	Solar Cable 4.0 mm <sup>2</sup> / 0.006 in <sup>2</sup> , 400 mm / 15.75 in (Higher cable option available on request)
Front Superstrate	3.2 mm / 0.125 in, High Transmission, AR coated tempered glass
Solar Cells	Mono PERC Crystalline - M10 (108 pcs Half Cut)
Cell Encapsulation	PID & UV Resistant
Back Substrate	Transparent Backsheet with Black Grid
Frame	Anodized Aluminium Alloy - Black
Mechanical Load Strength	5400 Pa (Snow Load), 2400 Pa (Wind Load)

**TEMPERATURE RATINGS**

Nominal Operating Cell Temperature (NOCT)	45°C (±2°C)
Temperature Coefficient of Voc	-0.27%/°C
Temperature Coefficient of Isc	0.045%/°C
Temperature Coefficient of Pmax	-0.35%/°C

**PERMISSIBLE OPERATING CONDITIONS**

Temperature Range	-40°C to +85°C
Maximum System Voltage	1500 V DC
Max. Series Fuse Rating	30 A

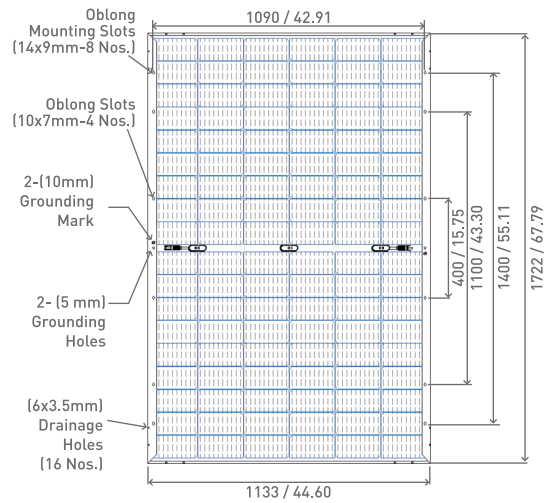
**WARRANTY AND CERTIFICATIONS**

Product Warranty	12 years Product Warranty
Performance Guarantee	25 year Linear Performance Warranty

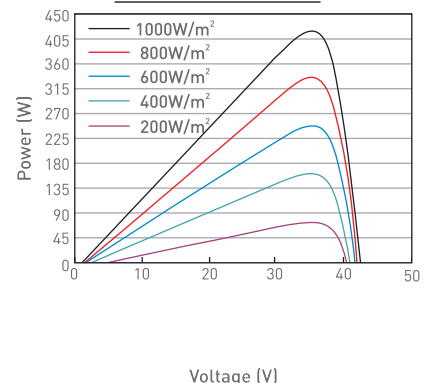
**PACKAGING CONFIGURATION**

Container Size	40' HQ
Modules per Pallet	31
Modules per Container	806

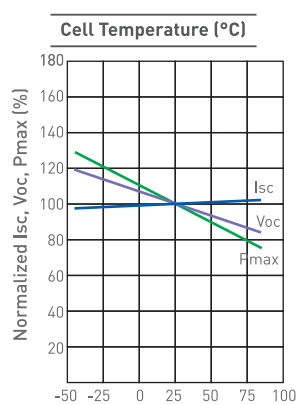
**Dimension of PV Module**  
Unit: mm / in



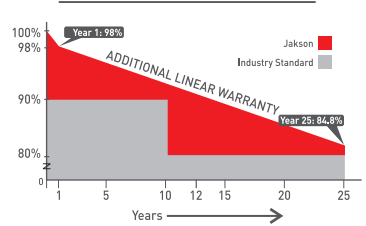
**Power-Voltage Curve**



**Cell Temperature (°C)**



**Linear Performance Warranty**



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