

# TRANSFORMING THE POWER OF SUN













## NEXT GEN BIFACIAL SOLAR PV MODULE 540-555 Wp

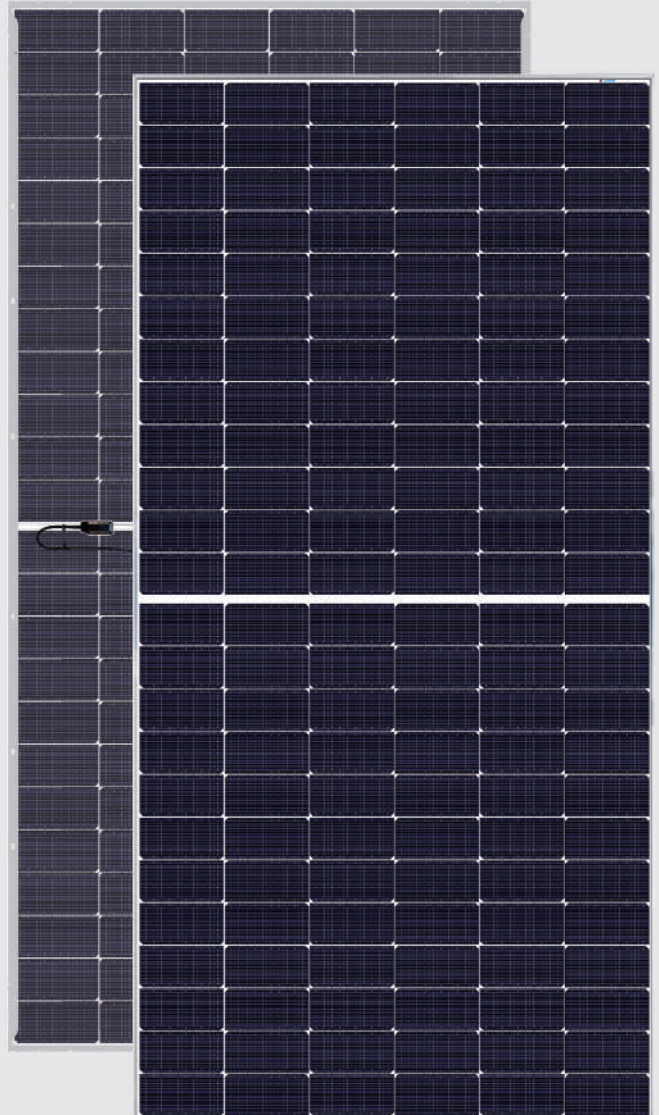
Best in Class Efficiency **21.50%**

MBB Technology **M10 Half Cut (144 Cells)**  
Bifacial Module With Transparent Backsheet

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
-  Better reliability under Extreme Environmental  
Conditions
-  Bifacial gain of **Up To 25% with Transparent Backsheet  
Module**, capable of energy generation with both direct  
and reflected sunlight.



### 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\***

Model	Unit	JH-540BT	JH-545BT	JH-550BT	JH-555BT
Capacity Rating Wp	Pmax	540	545	550	555
Max. Power Voltage in V	Vpm	41.64	41.80	41.93	42.05
Max. Power Current in A	Ipm	12.97	13.04	13.12	13.20
Open Circuit Voltage in V	Voc	49.60	49.75	49.90	50.00
Short Circuit Current in A	Isc	13.86	13.92	13.98	14.05
Module Efficiency	%	20.92	21.12	21.31	21.50
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%

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

		JH-540BT	JH-545BT	JH-550BT	JH-555BT
10%	Power Output (W)	594	600	605	611
	Module Efficiency [%]	23.01	23.25	23.44	23.67
15%	Power Output (W)	621	627	633	638
	Module Efficiency [%]	24.06	24.29	24.53	24.72
20%	Power Output (W)	648	654	660	666
	Module Efficiency [%]	25.11	25.34	25.57	25.80
25%	Power Output (W)	675	681	688	694
	Module Efficiency [%]	26.15	26.39	26.66	26.89
Bifaciality Factor		70±5%			

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

**MECHANICAL DATA**

Dimensions (L x W x H)	2278 mm x 1133 mm x 35 mm (optional 40 mm)
Weight	29 kgs
Junction Box	Split JB, IP 68 with 3 bypass diodes
Cable	Solar Cable 4.0 mm <sup>2</sup> , 400 mm (Higher cable option available on request)
Front Superstrate	3.2 mm, High Transmission, AR coated tempered glass
Solar Cells	Mono PERC Crystalline - M10 (144 pcs Half Cut)
Cell Encapsulation	PID & UV Resistant
Back Substrate	Transparent Backsheet
Frame	Anodized Aluminium Alloy
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

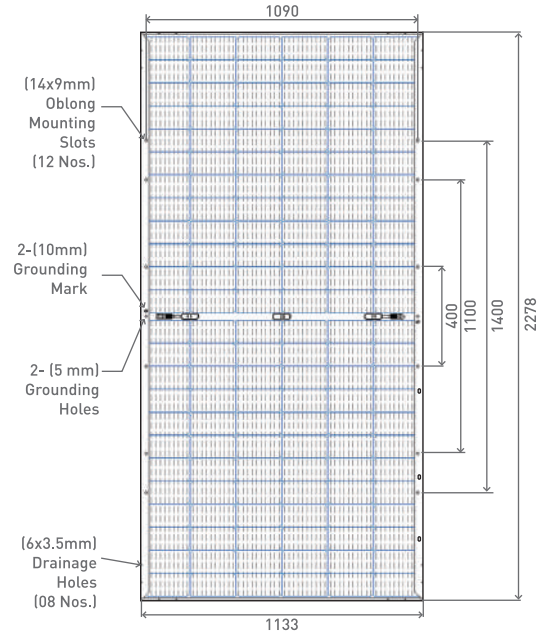
**WARRANTY AND CERTIFICATIONS**

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

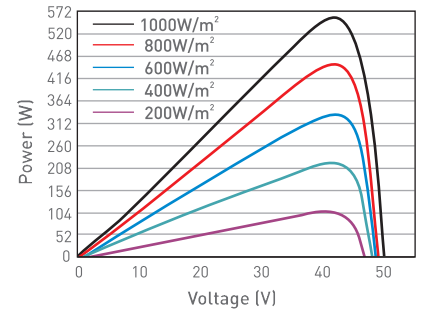
**PACKAGING CONFIGURATION**

Container Size	40' HQ
Modules per Pallet	31
Modules per Container	620

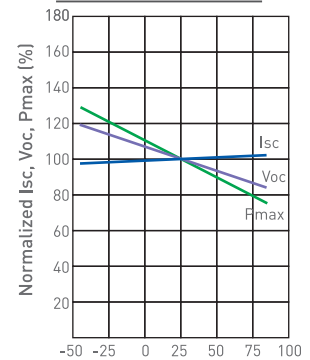
**Dimension of PV Module**  
Unit: mm



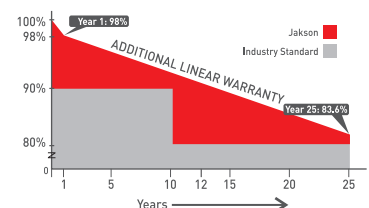
**Power-Voltage Curve**



**Cell Temperature (°C)**



**Linear Performance Warranty**



**JAKSON ENGINEERS LIMITED**

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# TRANSFORMING THE POWER OF SUN













## NEXT GEN BIFACIAL SOLAR PV MODULE 490-510 Wp

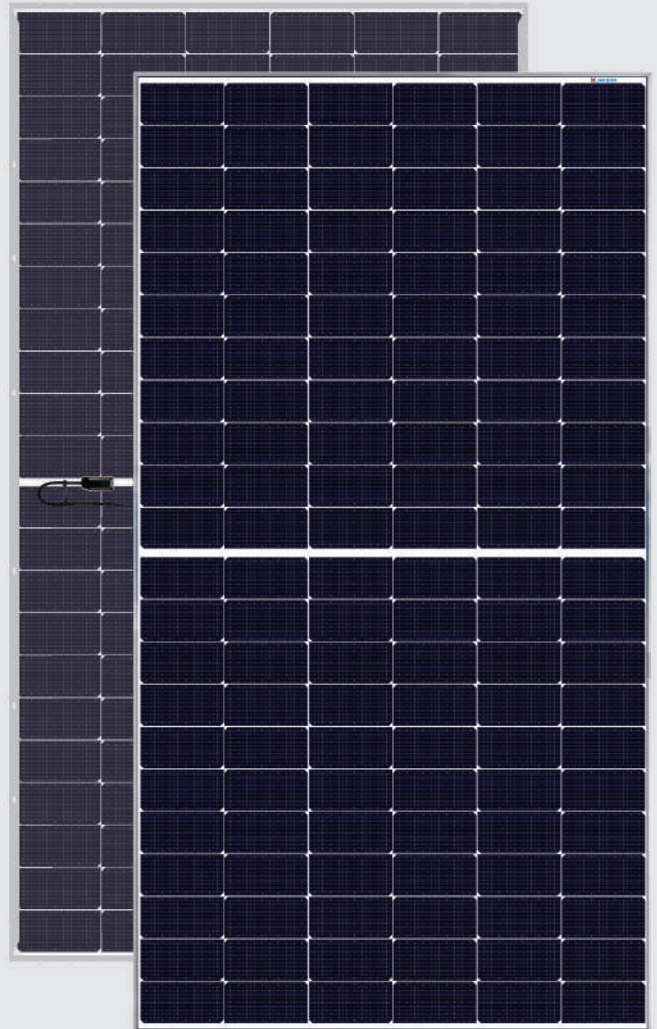
Best in Class Efficiency **21.50%**

MBB Technology **M10 Half Cut (132 Cells)**  
Bifacial Module With Transparent Backsheet

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
-  Better reliability under Extreme Environmental  
Conditions
-  Bifacial gain of **Up To 25% with Transparent Backsheet  
Module**, capable of energy generation with both direct  
and reflected sunlight.



### 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\***

Model		JH-490BT	JH-495BT	JH-500BT	JH-505BT	JH-510BT
Capacity rating Wp	Pmax	490	495	500	505	510
Max. Power Voltage in V	Vmp	38.2	38.3	38.4	38.52	38.64
Max. Power Current in A	Imp	12.83	12.93	13.03	13.12	13.2
Open Circuit Voltage in V	Voc	45.5	45.62	45.75	45.99	46.1
Short Circuit Current in A	Isc	13.74	13.8	13.86	13.9	13.97
Module Efficiency	%	20.65	20.86	21.07	21.29	21.50
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%

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

Model		JH-490BT	JH-495BT	JH-500BT	JH-505BT	JH-510BT
10%	Power Output (W)	539	545	550	556	561
	Module Efficiency (%)	22.72	22.97	23.18	23.44	23.65
15%	Power Output (W)	564	569	575	581	587
	Module Efficiency (%)	23.77	23.98	24.24	24.49	24.74
20%	Power Output (W)	588	594	600	606	612
	Module Efficiency (%)	24.78	25.04	25.29	25.54	25.80
25%	Power Output (W)	613	619	625	631	638
	Module Efficiency (%)	25.84	26.09	26.34	26.60	26.89
Bifaciality Factor		70±5%				

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

**MECHANICAL DATA**

Dimensions (L x W x H)	2094 mm x 1133 mm x 35 mm (optional 40 mm)
Weight	27 kgs
Junction Box	Split JB, IP 68 with 3 bypass diodes
Cable	Solar Cable 4.0 mm <sup>2</sup> , 400 mm (Higher cable option available on request)
Front Superstrate	3.2 mm, High Transmission, AR coated tempered glass
Solar Cells	Mono PERC Crystalline - M10 (132 pcs Half Cut)
Cell Encapsulation	PID & UV Resistant
Back Substrate	Transparent Backsheet
Frame	Anodized Aluminium Alloy
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**

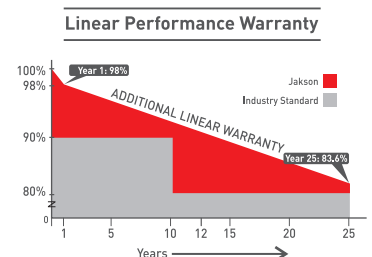
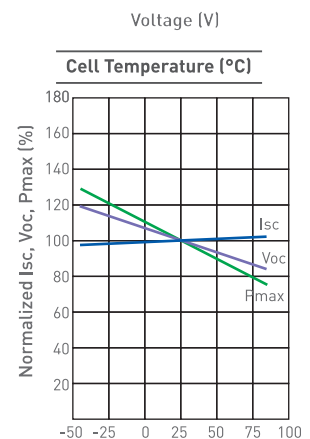
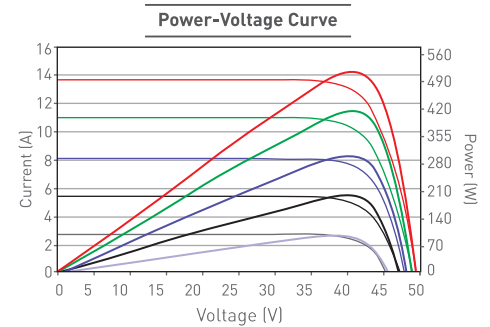
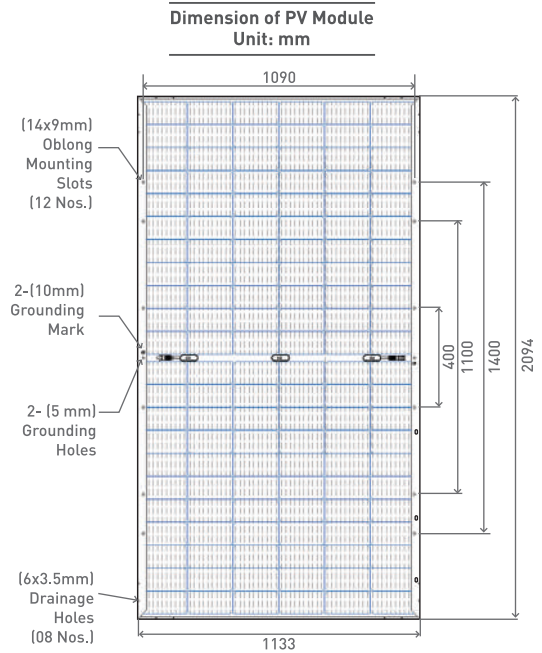
Temperature Range	-40°C to +85°C
Maximum System Voltage	1500 V DC
Max. Series Fuse Rating	30 A

**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	682



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## NEXT GEN BIFACIAL SOLAR PV MODULE 440-460 Wp

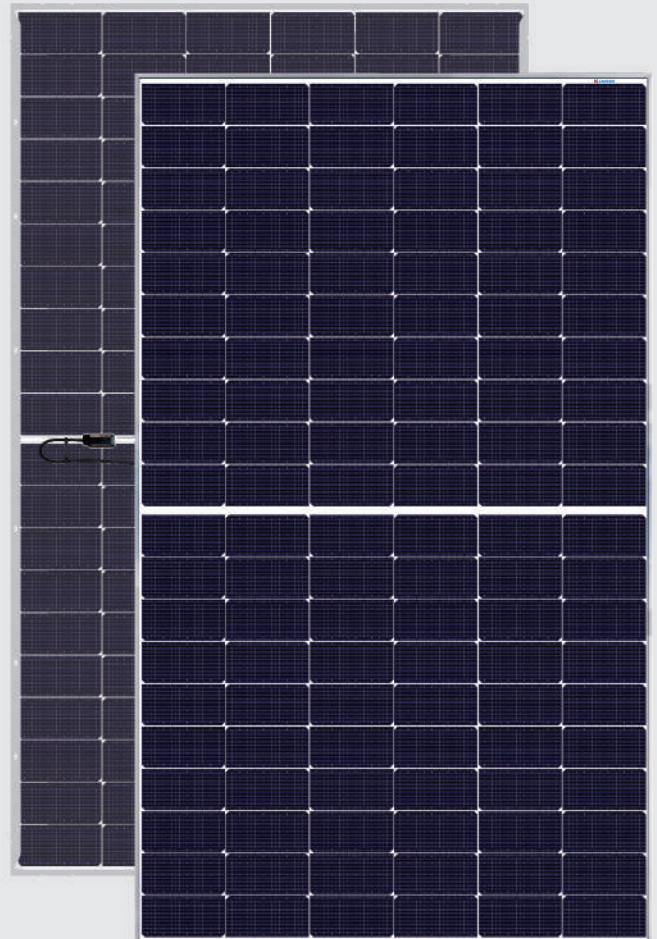
Best in Class Efficiency **21.23%**

MBB Technology **M10 Half Cut (120 Cells)**  
Bifacial Module With Transparent Backsheet

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
-  Better reliability under Extreme Environmental  
Conditions
-  Bifacial gain of **Up To 25% with Transparent Backsheet  
Module**, capable of energy generation with both direct  
and reflected sunlight.



### Approvals and Certificates:

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\* Under Process



**BIFACIAL SOLAR PV MODULES  
WITH TRANSPARENT BACKSHEET  
440-460Wp**



**ELECTRICAL DATA - STC\***

Model		JH-440BT	JH-445BT	JH-450BT	JH-455BT	JH-460BT
Capacity rating Wp	Pmax	440	445	450	455	460
Max. Power Voltage in V	Vmp	34.11	34.26	34.43	34.58	34.83
Max. Power Current in A	Imp	12.90	12.99	13.07	13.16	13.21
Open Circuit Voltage in V	Voc	40.85	41.05	41.22	41.40	41.52
Short Circuit Current in A	Isc	13.74	13.80	13.86	13.92	13.99
Module Efficiency	%	20.31	20.54	20.77	21.00	21.23
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%

**BI-FACIAL OUTPUT - REARSIDE POWER GAIN\***

Model		JH-440BT	JH-445BT	JH-450BT	JH-455BT	JH-460BT
10%	Power Output (W)	484	490	495	501	506
	Module Efficiency (%)	22.34	22.62	22.85	23.13	23.36
15%	Power Output (W)	506	512	518	523	529
	Module Efficiency (%)	23.36	23.63	23.91	24.14	24.42
20%	Power Output (W)	528	534	540	546	552
	Module Efficiency (%)	24.37	24.65	24.93	25.20	25.48
25%	Power Output (W)	550	556	563	569	575
	Module Efficiency (%)	25.39	25.67	25.99	26.27	26.54
Bifaciality Factor		70±5%				

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

**MECHANICAL DATA**

Dimensions (L x W x H)	1912 mm x 1133 mm x 35 mm (optional 40 mm)
Weight	24 kgs
Junction Box	Split JB, IP 68 with 3 bypass diodes
Cable	Solar Cable 4.0 mm <sup>2</sup> , 400 mm (Higher cable option available on request)
Front Superstrate	3.2 mm, High Transmission, AR coated tempered glass
Solar Cells	Mono PERC Crystalline - M10 (120 pcs Half Cut)
Cell Encapsulation	PID & UV Resistant
Back Substrate	Transparent Backsheet
Frame	Anodized Aluminium Alloy
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**

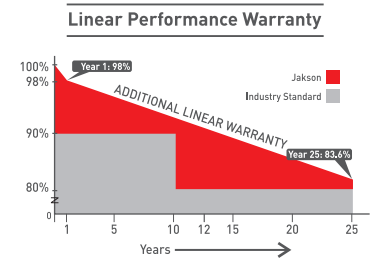
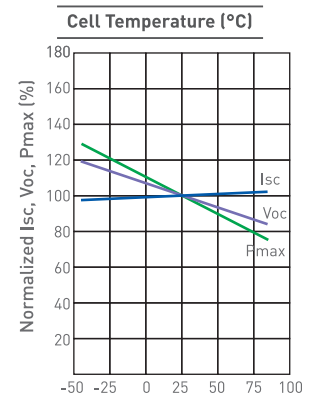
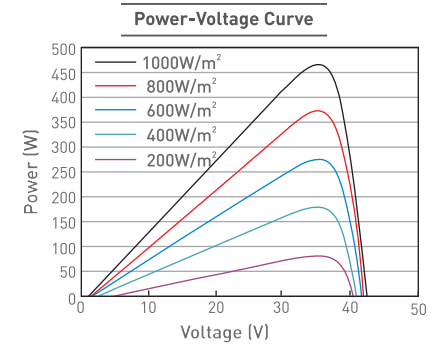
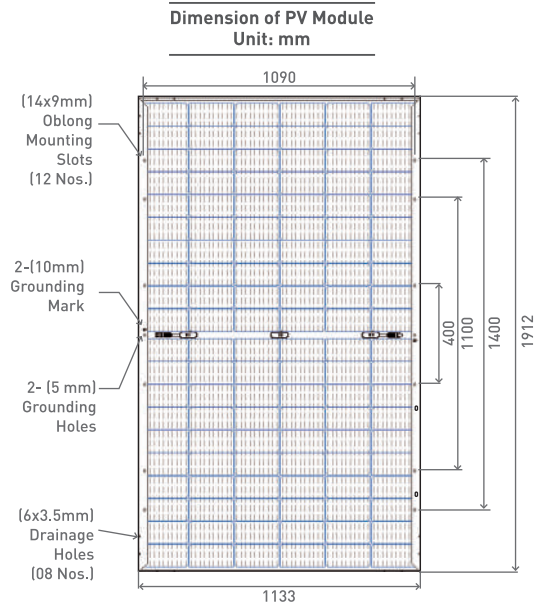
Temperature Range	-40°C to +85°C
Maximum System Voltage	1500 V DC
Max. Series Fuse Rating	30 A

**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	744



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

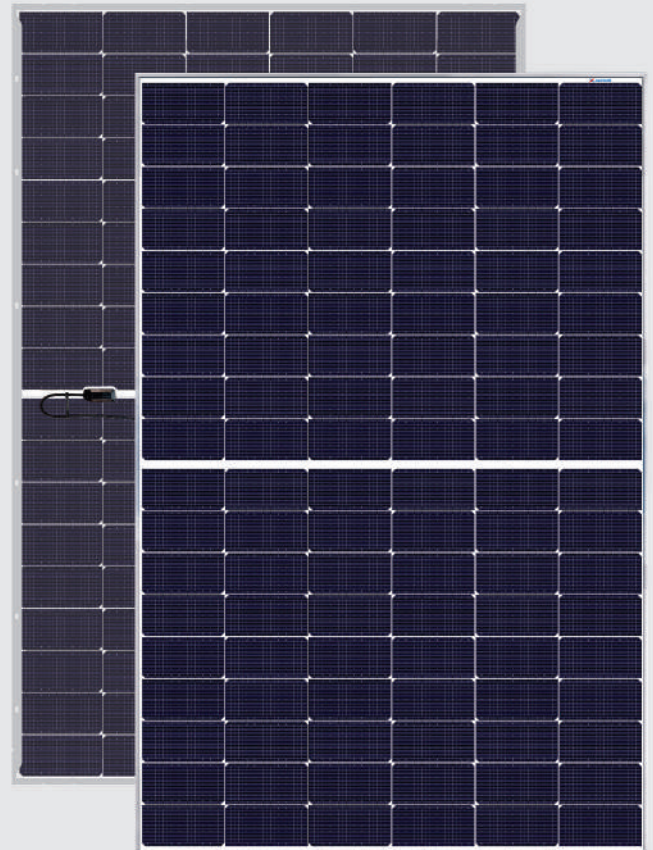
Best in Class Efficiency **21.27%**

MBB Technology **M10 Half Cut (108 Cells)**  
Bifacial Module With Transparent Backsheet

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  
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\* Under Process

**ELECTRICAL DATA - STC\***

Model		JH-400BT	JH-405BT	JH-410BT	JH-415BT
Capacity rating Wp	Pmax	400	405	410	415
Max. Power Voltage in V	Vmp	30.85	31.06	31.26	31.42
Max. Power Current in A	Imp	12.97	13.04	13.12	13.21
Open Circuit Voltage in V	Voc	36.76	36.94	37.12	37.30
Short Circuit Current in A	Isc	13.86	13.92	13.98	14.05
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%

**BI-FACIAL OUTPUT - REARSIDE POWER GAIN\***

Model		JH-400BT	JH-405BT	JH-410BT	JH-415BT
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		70±5%			

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

**MECHANICAL DATA**

Dimensions (L x W x H)	1722 mm x 1133 mm x 35 mm (optional 40 mm)
Weight	21.5 kgs
Junction Box	Split JB, IP 68 with 3 bypass diodes
Cable	Solar Cable 4.0 mm <sup>2</sup> , 400 mm (Higher cable option available on request)
Front Superstrate	3.2 mm, 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
Frame	Anodized Aluminium Alloy
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**

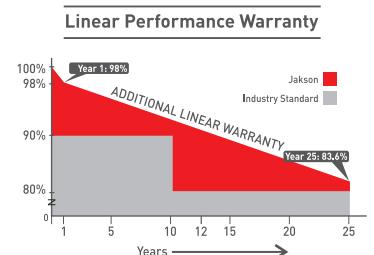
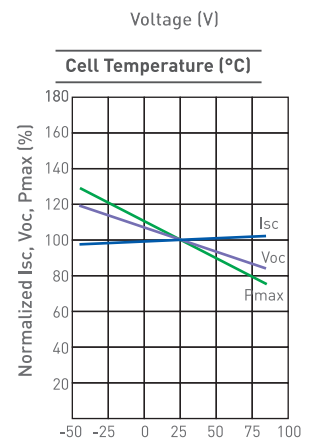
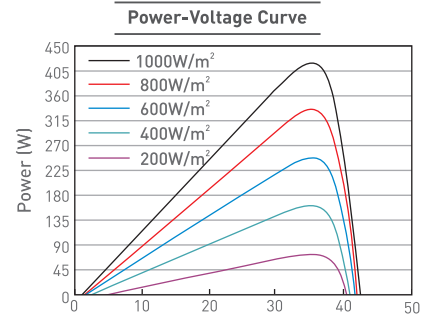
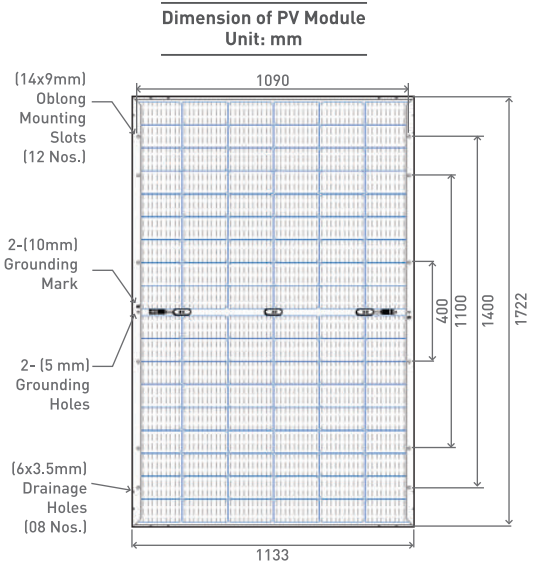
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Maximum System Voltage	1500 V DC
Max. Series Fuse Rating	30 A

**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



**JAKSON ENGINEERS LIMITED**

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