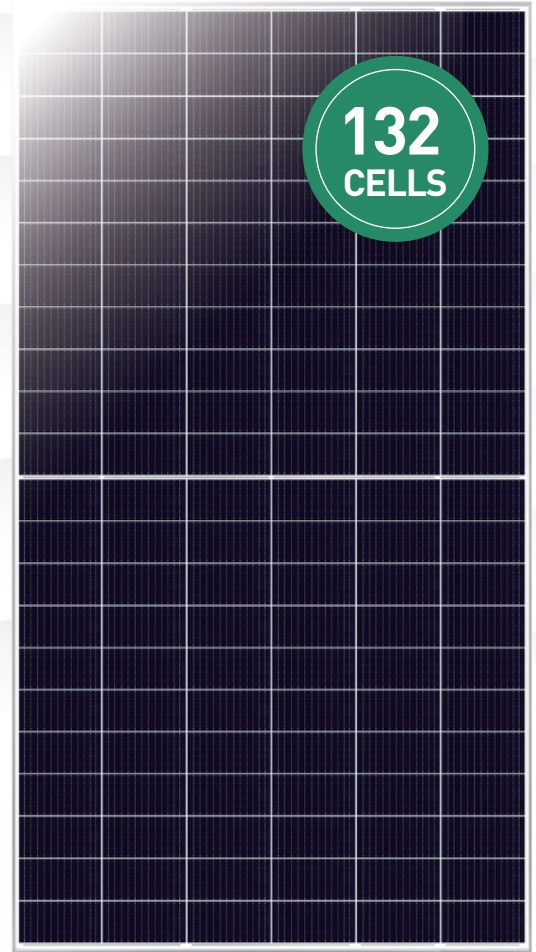


BIFACIAL TWINPLUS MODULE SERIES

HIGH EFFICIENCY MONO-PERC M12-12B-G

645-665W



EXTRAORDINARY PRODUCT PERFORMANCE

- ◆ Up to 25% additional power yield benefited from bifacial technology
- ◆ Lower power loss in cell connection and under shading conditions
- ◆ Competitive high-temperature performance with ameliorated temperature coefficient
- ◆ Higher power generation with multi-busbar and half-cut technology

HIGH QUALITY RELIABILITY

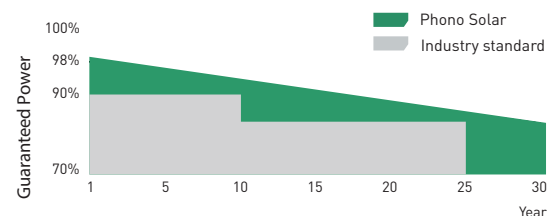
- ◆ Optimized electrical design lowers hot spot risk and operating current
- ◆ Corrosion resistance guarantees enhanced reliability in harsh environments
- ◆ Minimized Risk of microcrack and snail trail

EASY INSTALLATION

- ◆ Framed design improves mounting and racking method compatibility
- ◆ Safer and easier handling during transportation and installation

PID RESISTANT

- ◆ Encapsulation with POE and dual glass contributes to PID-free characteristic



12-year Product Warranty

30-year Linear Performance Warranty

MANAGEMENT SYSTEM CERTIFICATES

IEC 61215, IEC 61730

ISO 9001:2015 / Quality management system

ISO 14001:2015 / Standards for environmental management system

ISO 45001:2018 / International standards for occupational health & safety



Bloomberg Tier1
NEW ENERGY FINANCE



ELECTRICAL TYPICAL VALUES

Model	1000V	PS645M13GF-22/WH		PS650M13GF-22/WH		PS655M13GF-22/WH		PS660M13GF-22/WH		PS665M13GF-22/WH	
	1500V	PS645M13GFH-22/WH		PS650M13GFH-22/WH		PS655M13GFH-22/WH		PS660M13GFH-22/WH		PS665M13GFH-22/WH	
Testing Condition		STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Rated Power (Pmpp)		645	488	650	492	655	495	660	499	665	504
Rated Current (Imp)		17.21	13.98	17.25	14.01	17.29	14.05	17.33	14.10	17.37	14.16
Rated Voltage (Vmpp)		37.48	34.91	37.69	35.12	37.89	35.23	38.09	35.39	38.29	35.59
Short Circuit Current (Isc)		18.29	14.75	18.33	14.79	18.38	14.83	18.43	14.87	18.48	14.91
Open Circuit Voltage (Voc)		45.30	42.70	45.50	42.90	45.70	43.00	45.90	43.20	46.10	43.40
Module Efficiency (%)		20.76		20.92		21.09		21.25		21.41	

STC(Standard Testing Conditions):Irradiance 1000W/m², AM 1.5, Cell Temperature 25°C

NOCT (Nominal Operation Cell Temperature): Irradiance 800W/m², Ambient Temperature 20°C, Spectra at AM1.5, Wind at 1m/s

BIFACIAL ELECTRICAL VALUES

5%	Maximum Power (W)	668	673	678	683	688
	Module Efficiency (%)	21.49	21.66	21.82	21.99	22.16
15%	Maximum Power (W)	713	718	724	729	735
	Module Efficiency (%)	22.94	23.12	23.30	23.48	23.66
25%	Maximum Power (W)	758	764	770	776	781
	Module Efficiency (%)	24.40	24.59	24.78	24.96	25.15

MECHANICAL CHARACTERISTICS

Cell Type	Monocrystalline 210mm x 105mm
Dimension (L×W×H)	Length: 2384mm [93.86 inch]
	Width: 1303mm [51.30 inch]
	Height: 35mm [1.38 inch]
Weight	38.7kg [85.32 lbs]
Glass	2.0mm/2.0mm toughened glass
Frame	Anodized Aluminium Alloy
Cable (Including Connector)	4mm ² (IEC), (+):450mm,(-):250mm or Customized Length
Junction Box	IP 68 Rated

TEMPERATURE RATINGS

Voltage Temperature Coefficient	-0.25%/°C
Current Temperature Coefficient	+0.04%/°C
Power Temperature Coefficient	-0.34%/°C
Tolerance	0~+5w
NOCT	45±2°C
Bifaciality	70±5%

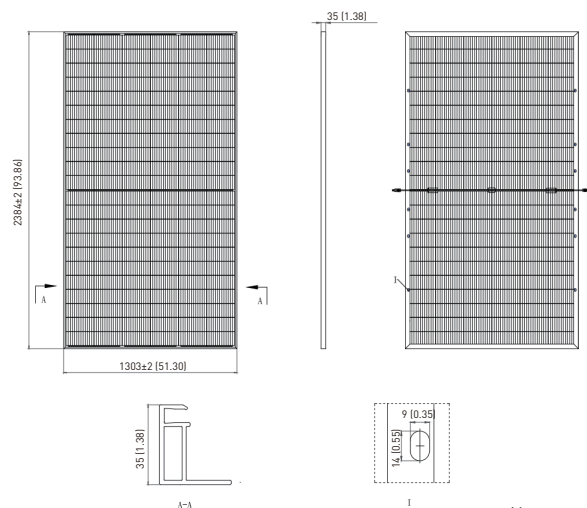
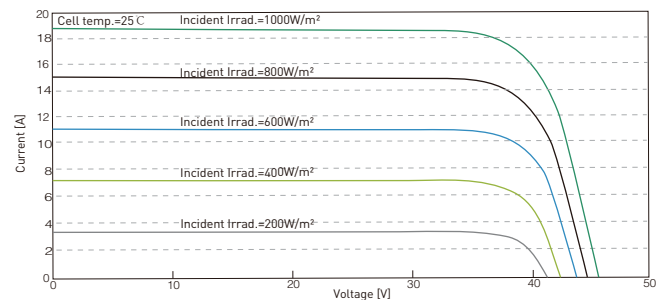
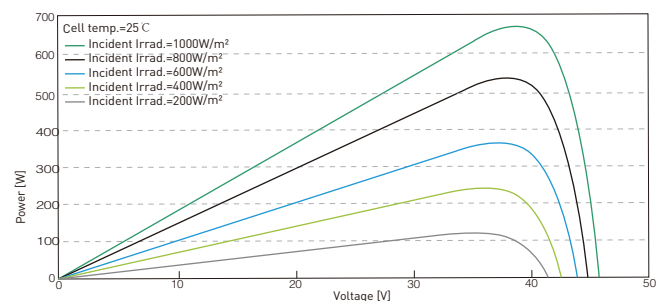
ABSOLUTE MAXIMUM RATING

Operating Temperature	From -40 to +85°C
Hail Diameter @ 80km/h	Up to 25mm
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Maximum Series Fuse Rating	35A
PV Module Classification	Class II
Fire Rating (IEC 61730)	Class A
Maximum System Voltage	DC 1000V/1500V

PACKING CONFIGURATION

Container	40' HQ
Pieces/Container	558

ELECTRICAL CHARACTERISTICS



Note:mm [inch]