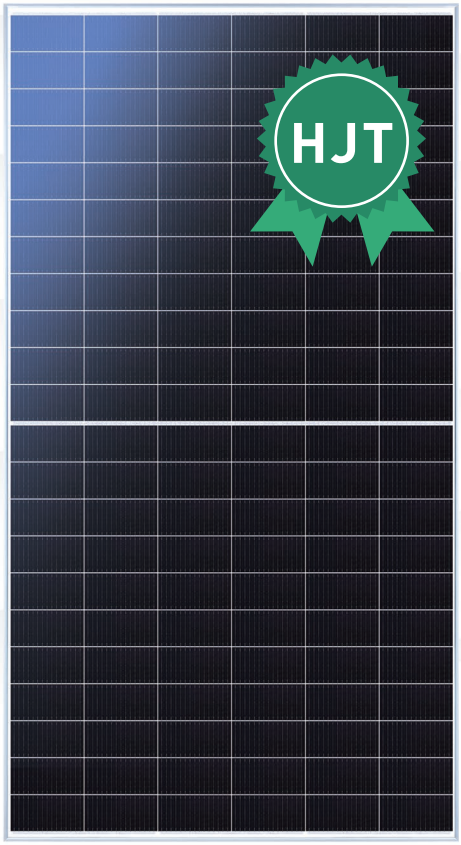
Phono® Solar

HELIOS MODULE SERIES

N-HJT HIGH EFFICIENCY MONO BM12-15B-G

680-700W



EXCELLENT POWER GENERATION PERFORMANCE

- 210mm wafer with SMBB cell technology
- Up to 85% bifaciality and up to 30% additional power generation
- Competitive high-temperature performance with ameliorated temperature coefficient (-0.24%/°C)
- Better weak illumination response of HJT technology leads higher power generation

MORE ENVIRONMENTALLY FRIENDLY

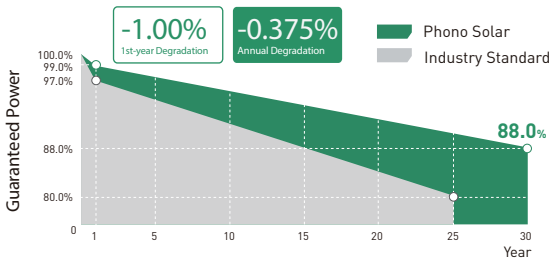
- Lower carbon emissions

CONSISTENT RELIABILITY

- Zero Light Induced Degradation
- Industry-leading cell technology of TCO thin film contributes to excellent anti-PID characteristic

SHORTER PAYBACK TIME

- Lower BoS cost ensure a better LCOE



15-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 NEW ENERGY FINANCE Tier 1

TOP PERFORMER 2022 PVEL PV MODULE RELIABILITY SCORECARD

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ELECTRICAL TYPICAL VALUES

Model	PS680M13GFH-22/WSH		PS685M13GFH-22/WSH		PS690M13GFH-22/WSH		PS695M13GFH-22/WSH		PS700M13GFH-22/WSH	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Rated Power (Pmpp)	680	518	685	522	690	526	695	529	700	533
Rated Current (Impp)	16.16	13.05	16.19	13.07	16.22	13.10	16.25	13.12	16.28	13.15
Rated Voltage (Vmpp)	42.08	39.69	42.32	39.90	42.55	40.12	42.77	40.34	43.00	40.55
Short Circuit Current (Isc)	17.13	13.83	17.15	13.85	17.17	13.87	17.19	13.88	17.21	13.90
Open Circuit Voltage (Voc)	49.51	47.13	49.71	47.32	49.91	47.51	50.11	47.70	50.31	47.90
Module Efficiency (%)	21.89		22.05		22.21		22.37		22.53	

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

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

ELECTRICAL CHARACTERISTICS WITH DIFFERENT POWER BIN

5%	Maximum Power (W)	711	716	721	726	732
	Module Efficiency (%)	22.88	23.04	23.21	23.38	23.55
15%	Maximum Power (W)	772	777	783	789	795
	Module Efficiency (%)	24.85	25.03	25.21	25.39	25.58
25%	Maximum Power (W)	833	839	845	851	858
	Module Efficiency (%)	26.82	27.01	27.21	27.41	27.60

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)	4mm² (IEC), (+):450mm,(-):250mm or Customized Length
Junction Box	IP 68 Rated

TEMPERATURE RATINGS

Voltage Temperature Coefficient	-0.22%/°C
Current Temperature Coefficient	+0.047%/°C
Power Temperature Coefficient	-0.24%/°C
Tolerance	0~+5w
NOCT	45±2°C
Bifaciality	90±5%

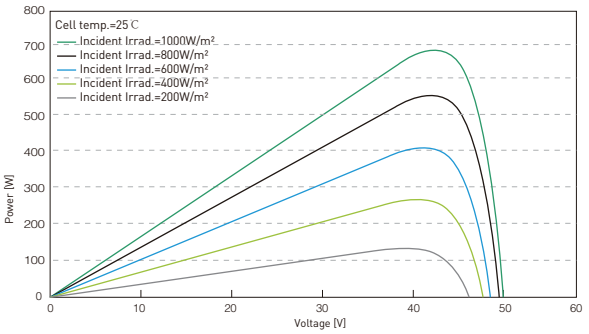
ABSOLUTE MAXIMUM RATING

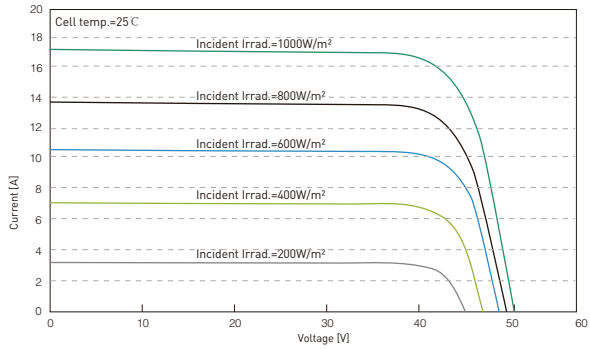
Operating Temperature	From -40 to +85°C
Hail Diameter @ 80km/h	Up to 25mm
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Maximum Series Fuse Rating	35A
PV Module Classification	Class II
Maximum System Voltage	DC 1500V

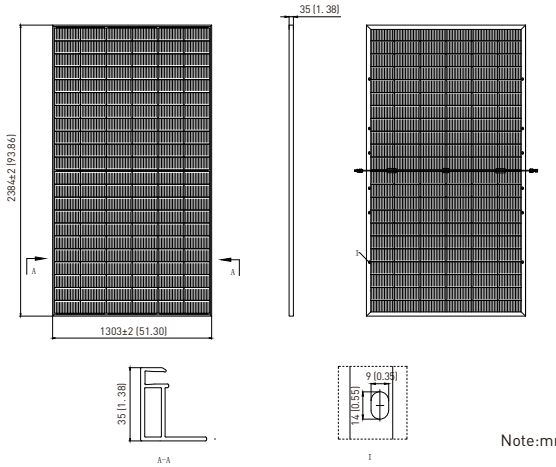
PACKING CONFIGURATION

Container	40' HQ
Pieces/Container	558

ELECTRICAL CHARACTERISTICS







Note:mm (inch)

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