



Philadelphia Solar
Delivering Clean Energy Solutions

PS-M144(HCBF)-GG-xxxW

Half-Cell MBB Bifacial Double Glass Module



530 -550 Watt (182mm Cell Size)

Philadelphia Solar's Mono-Crystalline modules with power up to **550 Wp** are produced using the state-of-the-art (automated) robotic production lines. These modules are suitable to be used for most electrical power applications and have excellent durability to prevailing weather conditions

CERTIFICATIONS

IEC TS 62804 PID Resistance
IEC 60068 Dust and Sand Resistance
IEC 62716 Ammonia Resistance
IEC 61701 Salt Mist Resistance
IEC 61215 / IEC 61730
EN ISO 9001: 2015
Quality Management System
EN ISO 14001: 2015
Environmental Management System
EN ISO 45001: 2018
Occupational health and safety management systems



APPLICATIONS



On-Grid Residential Roof-Tops



On-Grid Commercial/ Industrial Roof-Tops



Off-Grid Systems (Including Lighting Systems)

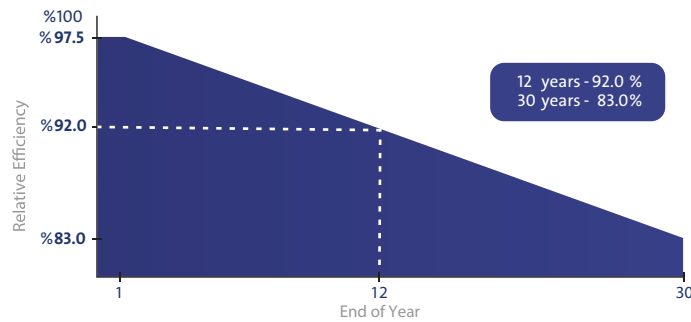


Solar Power Plants

FEATURES

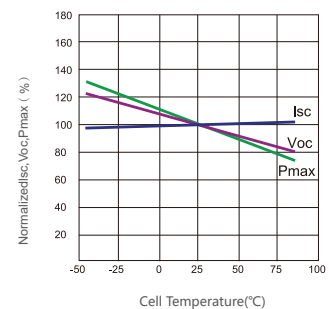
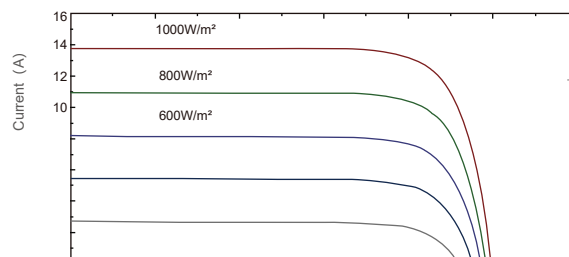
- Module's Cell Efficiency up to 23%
- Lower microcrack problem loss comparing with 5-busbar module
- Lower internal resistance loss
- Lower degradation PERC technology
- Less partial shading current mismatch loss so more power output.
- Better temperature coefficients come from half-cell design.

LINEAR PERFORMANCE WARRANTY



- 12 Year Product Warranty
- 30 Year Linear Power Warranty
- Only -0.5% Annual Degradation

I-V CURVES



ELECTRICAL CHARACTERISTICS

POWER AT STC	530 W	535 W	540 W	545 W	550 W
Short Circuit Current - Isc (A)	13.58	13.63	13.70	13.76	13.82
Maximum Power Current - Impp (A)	12.75	12.80	12.86	12.92	12.98
Open Circuit Voltage - Voc (V)	49.40	49.60	49.80	50.00	50.20
Maximum Power Voltage - Vmpp (V)	41.60	41.80	42.00	42.20	42.40
Module Efficiency - η ' (%)	20.45%	20.67%	20.84%	21.03%	21.23%

Values at Standard Test Conditions STC (Air Mass AM 1.5, Irradiance 1000 W/m², Cell Temperature 25° C).

MATERIAL CHARACTERISTICS

Characteristics	Value
Cells per Module	144 (72 x 2)
Cell Type	Grade A - Mono PERC Crystalline Silicon
Front Surface	Anti-Reflective Coated Tempered 2 mm Glass
Encapsulant	PID Free EVA
Back Cover	Tempered Glass 2mm
Frame	Anodized Aluminum
Junction Box	IP68, 3 Bypass Diodes
Cable Length	325mm Cables Length (Can be Customized)
Fire Classification	Type I

THERMAL CHARACTERISTICS

Characteristics	Value
Open Voltage Temperature Coefficient VOC (%/C°)	-0.22
Short Circuit Current Temperature Coefficient ISC (%/C°)	+0.05
Power Temperature Coefficient PMP (%/C°)	-0.35
NOCT (°C)	45±2

OPERATING CONDITIONS

Maximum System Voltage - Vmax (V)	1500
Maximum Series Fuse (A)	25
Operating Temperature Range (°C)	IEC: -40 to +85 UL: -40 to +90

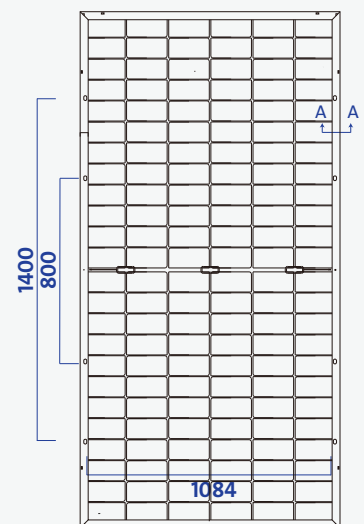
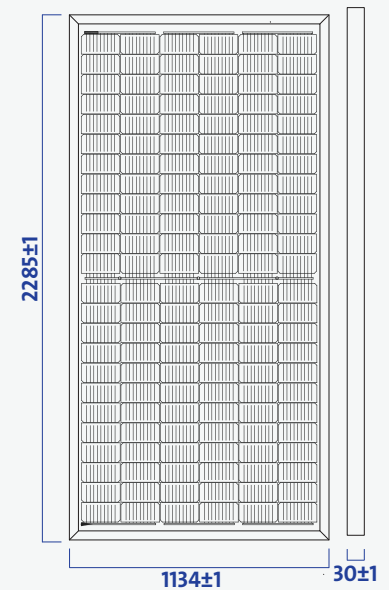
PHYSICAL CHARACTERISTICS

Characteristics	Value
Module Dimensions (mm)	2285±1 x 1134±1 x 30±1
Module Weight (kg)	33± 3%
Packaging	Value
Modules per Pallet	36
40 Feet High-Cube Container	720 Modules

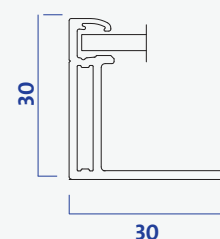
Mechanical Load

Mechanical Load	Value
Max Static load (Front)	5400 Pa
Max Static load (Front)	2400 Pa

Module Drawings



Cross Section A-A



- ◆ Power measuring tolerance: ± 3%, other measurements tolerances: ± 5%.
- ◆ Datasheet is subjected to change without prior notice, always obtain the most recent version of the datasheet.
- ◆ Caution: For professional use only, the installation and handling of PV modules and cleaning modules require professional skills and should only be performed by qualified professionals, please read the Installation and Operation Manual before using the modules, also Cleaning Guidelines