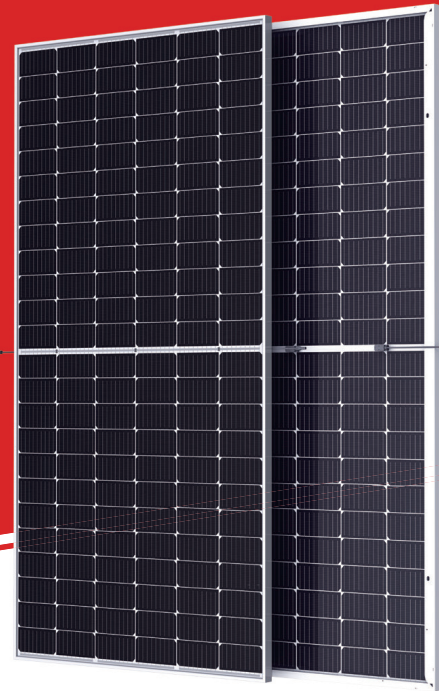




GPNE-S144/FNH-BG 430-450w

BIFACIAL DUAL GLASS 144 LAYOUT MODULE



Product Advantages



High power

- Up to 450W front power and 20.4% module efficiency with half-cut and MBB (Multi Busbar) technology bringing more BOS savings
- Lower resistance of half-cut and good reflection effect of MBB ensure high power



High reliability

- Ensured PID resistance through cell process and module material control
- Resistant to salt, acid and ammonia
- Proven to be reliable in high temperature and humidity areas
- Certificated to fire class A
- Minimizes micro-crack and snail trails
- Mechanical performance: Up to 5400 Pa positive load and 2400 Pa negative load



High energy generation

- Up to 25% additional power gain from back side depending on the albedo ;
- Excellent IAM and low light performance validated by 3rd party with cell process and module material optimization
- Lower temp coefficient (-0.35%) and NMOT bring more energy leading to lower LCOE
- Better anti-shading performance and lower operating temperature



Easy to install

- Frame design makes module compatible with all racking and installation methods
- Easy to handle and install as normal framed module during transportation

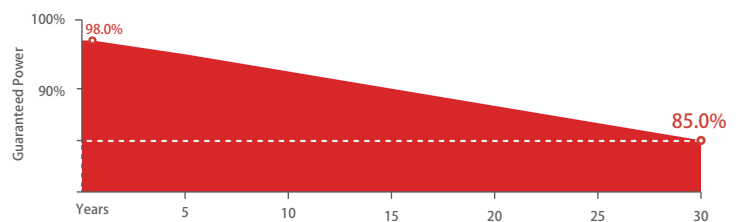
20.4%

Module efficiency

450W

Highest power output

Performance Warranty



-2.00%

First year power degradation

-0.45%

Annual degradation

12
Years

Materials and workmanship warranty

30
Years

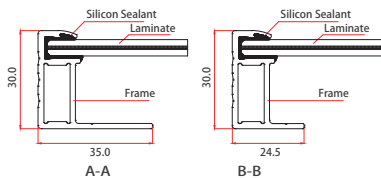
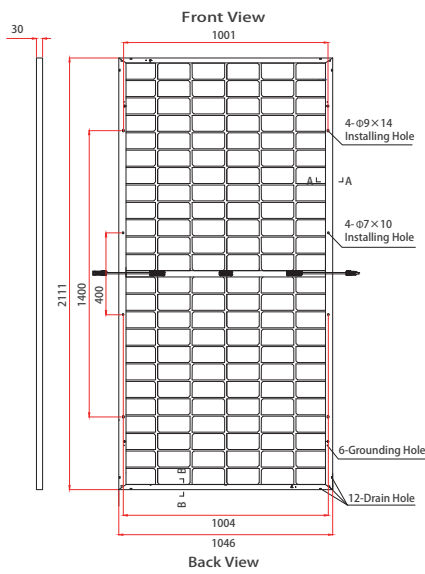
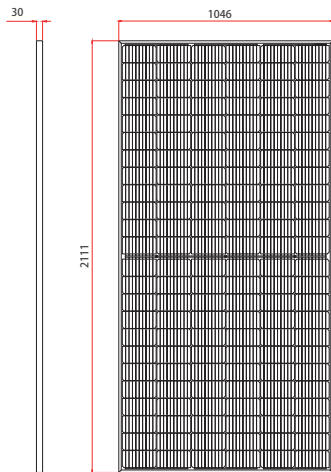
Linear power warranty

Product Certification

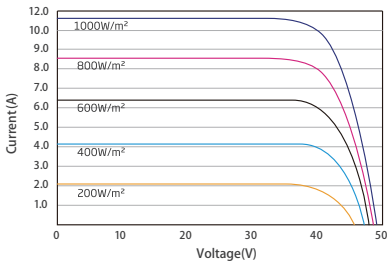


GPNE-S144/FNH-BG

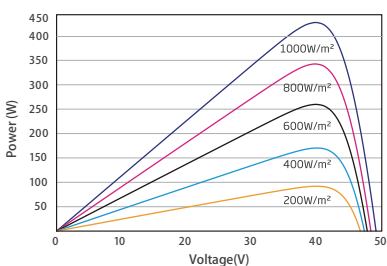
DIMENSIONS OF PV MODULE(mm)



I-V CURVES OF PV MODULE(440 W)



P-V CURVES OF PV MODULE(440W)



ELECTRICAL DATA (STC)

Peak Power Watts-P _{MAX} (Wp)*	430	435	440	445	450
Power Tolerance-P _{MAX} (W)	0 ~ +5				
Maximum Power Voltage-V _{MPP} (V)	40.5	40.8	41.1	41.4	41.7
Maximum Power Current-I _{MPP} (A)	10.62	10.67	10.71	10.75	10.80
Open Circuit Voltage-V _{OC} (V)	48.7	48.9	49.1	49.3	49.5
Short Circuit Current-I _{SC} (A)	11.20	11.24	11.28	11.32	11.36
Module Efficiency η _m (%)	19.5	19.7	19.9	20.2	20.4

STC: Irradiance 1000W/m², Cell Temperature 25° C, Air Mass AM1.5.
*Measuring tolerance: ±3%.

Electrical characteristics with different rear side power gain (reference to 435 Wp front)

Maximum Power-P _{MAX} (Wp)	457	479	500	522	544
Maximum Power Voltage-V _{MPP} (V)	40.8	40.8	40.8	40.8	40.8
Maximum Power Current-I _{MPP} (A)	11.20	11.74	12.27	12.80	13.34
Open Circuit Voltage-V _{OC} (V)	49.0	49.1	49.2	49.3	49.4
Short Circuit Current-I _{SC} (A)	11.80	12.36	12.93	13.49	14.05
Pmax gain	5%	10%	15%	20%	25%

Power Bifaciality :70±5%.

ELECTRICAL DATA (NMOT)

Maximum Power-P _{MAX} (Wp)	325	329	333	337	341
Maximum Power Voltage-V _{MPP} (V)	38.2	38.5	38.8	39.0	39.1
Maximum Power Current-I _{MPP} (A)	8.51	8.55	8.58	8.63	8.71
Open Circuit Voltage-V _{OC} (V)	46.0	46.2	46.4	46.6	46.7
Short Circuit Current-I _{SC} (A)	9.02	9.05	9.08	9.12	9.15

NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.

MECHANICAL DATA

Solar Cells	Monocrystalline silicon 166 mm (9BB)
Cell Orientation	144 cells (6 × 24)
Module Dimensions	2111 × 1046 × 30 mm
Weight	28.6 kg
Front Glass	2.0 mm , High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	POE/EVA
Back Glass	2.0 mm , Heat Strengthened Glass (White Grid Glass)
Frame	30mm Anodized Aluminium Alloy
Junction Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm ² Portrait: 280/280 mm Landscape: 1400/1400 mm

*Please refer to regional datasheet for specified connector.

TEMPERATURE RATINGS

NMOT(Nominal Module Operating Temperature)	41 °C (±3°C)
Temperature Coefficient of P _{MAX}	- 0.35%/°C
Temperature Coefficient of Voc	- 0.25%/°C
Temperature Coefficient of Isc	0.04%/°C

(Do not connect Fuse in Combiner Box with two or more strings in parallel connection)

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	20A

PACKAGING CONFIGURATION

Modules per box: 35 pieces
Modules per 40' container: 770 pieces