

G12R-54P

N-type Bifacial Double Glass Module

HSM-ND54-GR485~510



510W

Maximum Power Output

22.9%

Maximum Efficiency

High Energy Yield

- Lower temperature coefficient (Pmax): $-0.29\%/^{\circ}\text{C}$
- Up to 80% power bifaciality

Industry-leading G12 Wafer

- $<1\%$ degradation in the first year
- Smaller wafer chamfer, larger light receiving area

Superior Customer Value

- Higher installed DC capacity within limited rooftop space

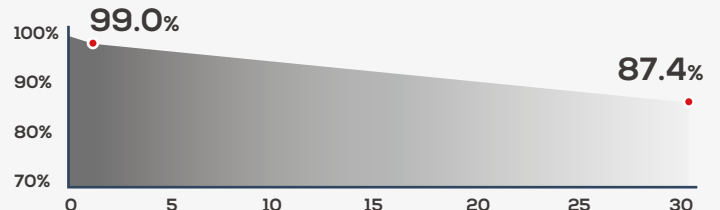
Long-term Reliability

- Harsh environment resistance
- Damage-free laser cutting, lower micro-crack risk
- Mechanical load: Front 5400 Pa, Back 2400 Pa

Linear Performance Warranty

15 Years Product Warranty

30 Years Linear Performance Warranty



Comprehensive Products and System Certificates



IEC 61215 / IEC 61730 ISO 9001:2015 ISO 45001:2018 ISO 14001:2015

G12R-54P N-type Bifacial Double Glass Module

HSM-ND54-GR485~510

510W

Maximum Power

22.9%

Maximum Efficiency

0~+5W

Power Tolerance

Electrical Parameters (STC*)

* STC: Irradiance 1000W/m², Cell Temperature 25°C, AM1.5, Measuring Tolerance: ±2%

Maximum Power	P _{max} (W)	485	490	495	500	505	510
Open Circuit Voltage	V _{oc} (V)	39.41	39.61	39.81	40.02	40.22	40.42
Short Circuit Current	I _{sc} (A)	15.67	15.74	15.81	15.88	15.95	16.02
Maximum Power Voltage	V _{mp} (V)	32.45	32.65	32.85	33.05	33.25	33.45
Maximum Power Current	I _{mp} (A)	14.95	15.01	15.07	15.13	15.19	15.25
Module Efficiency	(%)	21.8	22.0	22.3	22.5	22.7	22.9

Electrical Characteristics with 10% Bifacial Gain*

* The additional gain from the back side depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

Maximum Power	P _{max} (W)	534	539	545	550	556	561
Open Circuit Voltage	V _{oc} (V)	39.41	39.61	39.81	40.02	40.22	40.42
Short Circuit Current	I _{sc} (A)	17.24	17.31	17.39	17.47	17.55	17.62
Maximum Power Voltage	V _{mp} (V)	32.45	32.65	32.85	33.05	33.25	33.45
Maximum Power Current	I _{mp} (A)	16.45	16.51	16.58	16.64	16.71	16.78

Mechanical Data

* Please refer to installation manual for details

No. of Cells	108pcs (6×18)
Dimension	1961×1134×30 mm
Weight	27kg
Front Glass	2.0mm High Transmission, Heat Strengthened, AR coating Glass
Back Glass	2.0mm High Transmission, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
J-Box	IP68
Cables	4.0mm ² , +1200mm, -1200mm/±1400mm (can be customized)
Diodes	3
Maximum Static Load	Front: 5400Pa/Back: 2400Pa*

Temperature Coefficient

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

Nominal Module Operating Temperature*	43±2°C	Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of I _{sc}	+0.045%/°C	Temperature Coefficient of P _{max}	-0.29%/°C

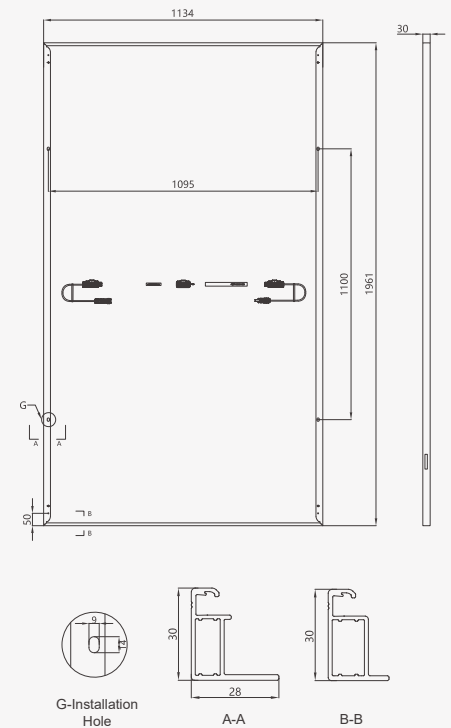
Operating Parameters

Operating Temperature	-40~+85°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A
Power Bifaciality	80±5%

Packaging Configuration

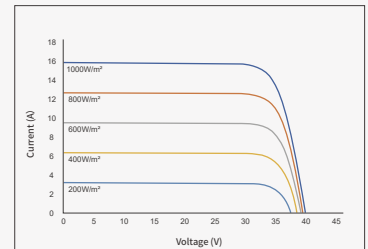
Modules per Pallet	36pcs
Modules per 40'HQ Container	864pcs
Pallets per 40'HQ Container	24plt

Engineering Drawing [Unit: mm]

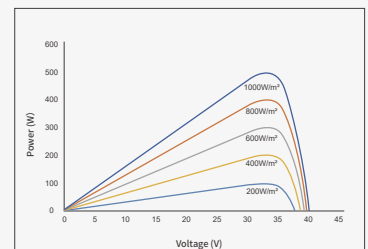


Curve Graph

I-V Curves (495W)



P-V Curves (495W)



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Datasheets