

G10-80P N-type Bifacial Double Glass Module

HSM-GFE-NM625~650

650W

Maximum Power Output

23.3%

Maximum Efficiency

High Energy Yield

- High-density cell package, increasing 2% cells
- Lower temperature coefficient (Pmax): -0.29%/°C
- Up to 80% power bifaciality

Industry-leading G10 Wafer

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

Superior Customer Value

- Integrated technology: TOPCon + Shingling
- Better for RES DG, lower BOS and improve ROR
- More artistic beauty with no-gap design

Long-term Reliability

- 1/3 cell technology, lower current loss and hot spot risk
- Harsh environment resistance
- Damage-free laser cutting, lower micro-crack risk
- Mechanical load: Front 5400 Pa, Back 2400 Pa

Comprehensive Products and System Certificates

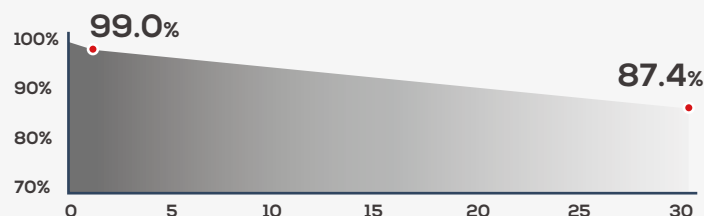


IEC 61215 / IEC 61730 ISO 9001:2015 ISO 45001:2018 ISO 14001:2015

Linear Performance Warranty

15 Years
Product Warranty

30 Years Linear
Performance Warranty



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Maximum Power

23.3%

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)	625	630	635	640	645	650
Open Circuit Voltage	V _{oc} (V)	57.90	58.10	58.30	58.50	58.70	58.90
Short Circuit Current	I _{sc} (A)	13.41	13.44	13.47	13.50	13.53	13.56
Maximum Power Voltage	V _{mp} (V)	49.06	49.29	49.52	49.75	49.98	50.20
Maximum Power Current	I _{mp} (A)	12.74	12.79	12.83	12.87	12.91	12.95
Module Efficiency	(%)	22.4	22.5	22.7	22.9	23.1	23.3

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)	688	693	699	704	710	715
Open Circuit Voltage	V _{oc} (V)	57.90	58.10	58.30	58.50	58.70	58.90
Short Circuit Current	I _{sc} (A)	14.75	14.78	14.82	14.85	14.88	14.92
Maximum Power Voltage	V _{mp} (V)	49.06	49.29	49.52	49.75	49.98	50.20
Maximum Power Current	I _{mp} (A)	14.01	14.07	14.11	14.16	14.20	14.25

Mechanical Data

* Please refer to installation manual for details

No. of Cells	240pcs (6×40)
Dimension	2465×1134×30mm
Weight	33.5kg
Front Glass	2.0mm High Transmission, Heat Strengthened Glass
Back Glass	2.0mm Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
J-Box	IP68
Cables	4.0mm ² , +350mm, -280mm/±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 V _{oc}	-0.25%/°C
Temperature Coefficient of I _{sc}	+0.045%/°C	Temperature Coefficient of P _{max}	-0.29%/°C

Operating Parameters

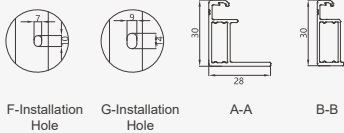
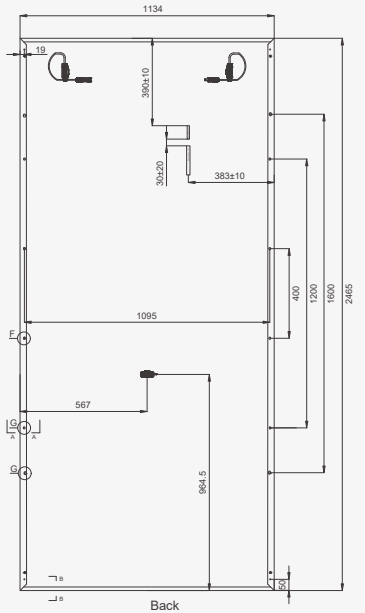
Operating Temperature	-40~+85°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A
Power Bifaciality	80±5%

Packaging Configuration

Modules per Pallet	36pcs
Modules per 40'HQ Container	576pcs
Pallets per 40'HQ Container	16plt

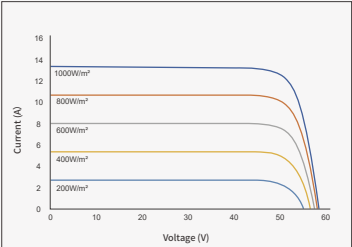
Engineering Drawing

[Unit: mm]

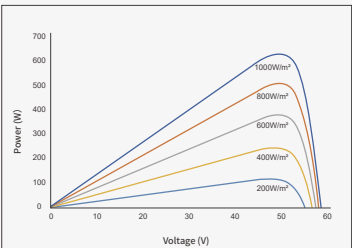


Curve Graph

I-V Curves (630W)



P-V Curves (630W)



TCL

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Datasheets