

High Efficiency  
Bifacial HJT Module

# GSM- MH3/120- BHDG650

630W | 635W | 640W  
645W | 650W



**650W**  
Maximum Power Output

**85%**  
Bifaciality

**22.97%**  
Maximum Efficiency

**30YEAR**  
Linear Power Warranty

## Product Features



### Industry-Leading Process Technology

Advanced HJT cell/module design, higher reliability and outstanding performance



### High Energy Yield

Maximum Module Efficiency up to 22.97% achieved by mature mass production HJT cell technology



### G12 Cell / Module

G12 Big size wafer, effectively reduced LCOE and improved ROI



### High Reliability

Certified mechanical performance up to 5400 Pa positive load and 2400 Pa negative load, with better protection against harsh weather



### Higher Performance

Excellent weak light performance and lower temperature coefficient, resulting in better energy yield in all-weather



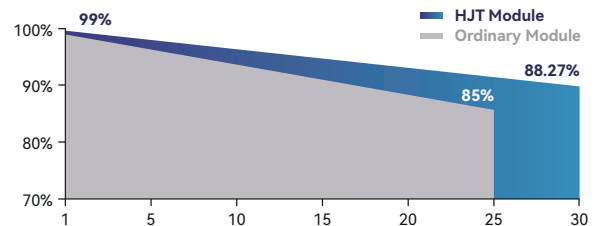
### Fire Safety Class:

Class C according to UL790

## Quality Assurance

**12** Years Product Warranty

**30** Years Linear Power Warranty

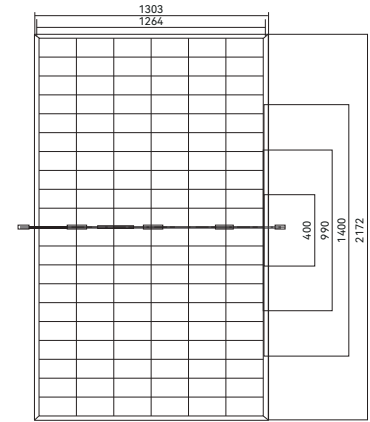


## Certificates



## Mechanical Data

Cell (mm)	210×105
Weight (kg)	35±0.5kg
Dimension(L×W×H)(mm)	2172×1303×35mm
Cable (mm)	4mm <sup>2</sup> , 300mm(customized length based on needs)
Frame	anodized aluminum 6005-2T6
Junction Box	IP68, 1500VDC, 3 Diodes, Connector Type:GT4 Changzhou Greateen New Energy Technology Co., Ltd.,
Packaging Configuration (40' Container;17.5' Trailer)	31 pcs. / pallet; 17pallet / container; 527pcs / container 31 pcs. / pallet; 26pallet / Trailer; 806pcs / Trailer



## Electrical Data(STC)

Binning tolerance: 0-+5W, Power production tolerance: ±3%, Voc tolerance: ±3%, Isc tolerance: ±3%

Model	GSM-MH3/120-BHDG630	GSM-MH3/120-BHDG635	GSM-MH3/120-BHDG640	GSM-MH3/120-BHDG645	GSM-MH3/120-BHDG650
Pmax(Wp)	630	635	640	645	650
Voc(V)	45.30	45.48	45.66	45.84	46.02
Isc(A)	17.37	17.43	17.49	17.55	17.61
Vmpp(V)	38.04	38.19	38.35	38.51	38.67
Impp(A)	16.57	16.63	16.69	16.75	16.81
Efficiency	22.26%	21.44%	22.61%	22.79%	22.97%

STC: AM1.5 Irradiance: 1000W/m<sup>2</sup> Temperature=25°C

## Electrical Characteristics(BSTC)

Model	GSM-MH3/120-BHDG630	GSM-MH3/120-BHDG635	GSM-MH3/120-BHDG640	GSM-MH3/120-BHDG645	GSM-MH3/120-BHDG650
Pmax(Wp)	695	700	707	713	718
Voc(V)	45.35	45.53	45.71	45.89	46.07
Isc(A)	19.11	19.17	19.23	19.29	19.35
Vmpp(V)	38.11	38.29	38.47	38.65	38.83
Impp(A)	18.26	18.32	18.38	18.44	18.50
αIsc (%/K) : 0.04; βVoc (%/K) : -0.24; γPmp (%/K) : -0.26					

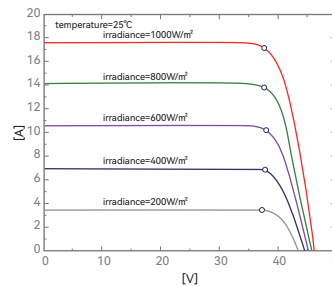
AM1.5, Front irradiance: 1000W/m<sup>2</sup>, Back irradiance: 135W/m<sup>2</sup>, Temperature=25°C, Wind speed=1m/s

## Working Condition

Maximum System Voltage	1500VDC
Operating Temperature	-40°C ~ +85°C
Maximum Fuse Rating	35A
Rear Side Mechanical Load	2400Pa
Front Side Mechanical Load	5400Pa
NOCT	44±2°C
Safety Class	Class II
Grounding Electric Conductivity	< 0.1Ω

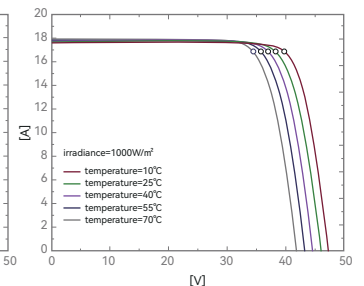
## I-V Diagram

(Different Irradiance)



## I-V Diagram

(Different Temperature)



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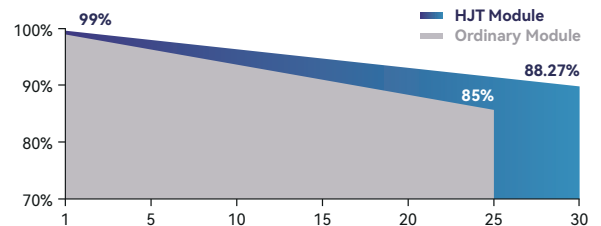
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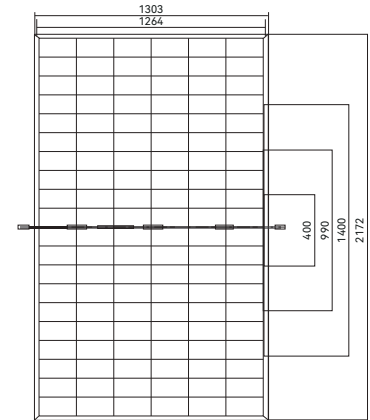


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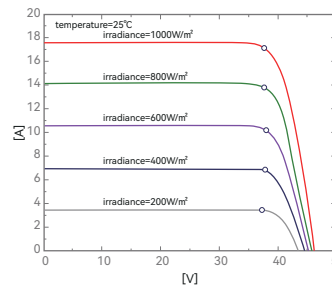
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