

High Efficiency  
Bifacial PERC Module

# GSM- MP3/132- BMDG670

650W | 655W | 660W  
665W | 670W

**670W**  
Maximum Power Output

**75%**  
Bifaciality

**21.57%**  
Maximum Efficiency

**30Years**  
Linear Power Warranty

## Product Features



### 12BB Half Cell

Multi-busbar half cell design, together with many other technologies to increase module power and efficiency



### High Energy Yield

High density interconnection technology optimizes module efficiency up to 21.57%



### G12 Cell/Module

G12 big size wafer, low BOS cost, best for utility scale projects



### High Reliability

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



### Higher Performance

Low temperature coefficient, low operating temperature, more energy yield



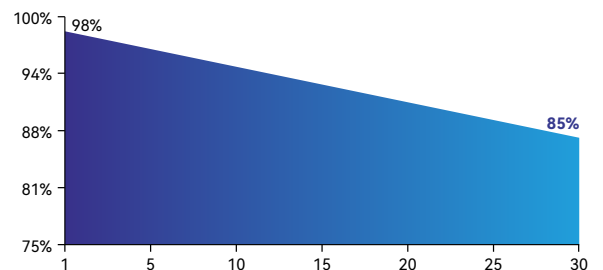
### Better Warranty

Low LID/PID in longer service life, less than 15% power degradation in 30 years

## Quality Assurance

**12** Years Product Warranty

**30** Years Linear Power Warranty



## Certificates



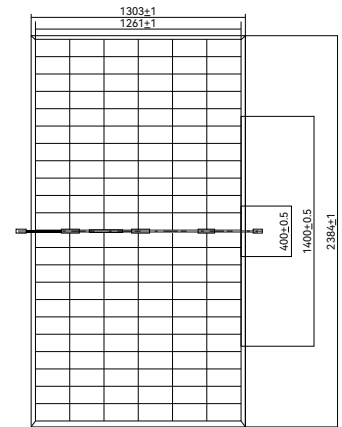
**Guosheng Energy Co., Ltd.**

Web: [www.grandsunergy.com](http://www.grandsunergy.com) E-mail: [sales@grandsunergy.com](mailto:sales@grandsunergy.com)

Add: West Side to Zhongjing 7th Road, South Side to Pengcheng Boulevard, Xuzhou Industrial Park, Xuzhou City, Jiangsu Province

## Mechanical Data

Cell(mm)	210×105
Weight(kg)	38.5±0.5kg
Dimension(L×W×H)(mm)	2384×1303×35mm
Cable(mm)	4mm <sup>2</sup> , 300mm(customized length based on needs)
Frame	anodized aluminum
Junction Box	IP68, 1500VDC, 3 Diodes
Packaging Configuration (40'Container; 17.5'Trailer)	31pcs./Pallet; 17pallet/container; 527pcs/container 31pcs/pallet, 24pallet / Trailer, 744pcs / Trailer



## Electrical Data (STC)

Model	GSM-MP3/132-BMDG650	GSM-MP3/132-BMDG655	GSM-MP3/132-BMDG660	GSM-MP3/132-BMDG665	GSM-MP3/132-BMDG670
Pmax(Wp)	650	655	660	665	670
Voc(V)	45.5	45.7	45.9	46.1	46.3
Isc(A)	18.35	18.40	18.45	18.50	18.55
Vmpp(V)	37.7	37.9	38.1	38.3	38.47
Impp(A)	17.27	17.31	17.35	17.39	17.42
Efficiency	20.92%	21.09%	21.25%	21.41%	21.57%

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

## Electrical Characteristics (NMOT)

Model	GSM-MP3/132-BMDG650	GSM-MP3/132-BMDG655	GSM-MP3/132-BMDG660	GSM-MP3/132-BMDG665	GSM-MP3/132-BMDG670
Pmax(Wp)	483	485	490	494	497
Voc(V)	41.31	41.51	41.71	41.91	42.07
Isc(A)	14.88	14.93	15.00	15.04	15.09
Vmpp(V)	35.42	35.53	35.72	35.92	36.10
Impp(A)	13.66	13.69	13.72	13.76	13.78

$\alpha_{isc} (\%/K) : 0.05; \beta_{Voc} (\%/K) : -0.265; \gamma_{Pmp} (\%/K) : -0.34$

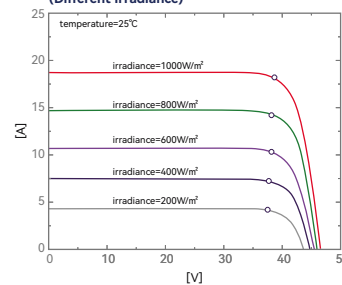
NMOT standard: AM1.5 Front irradiance: 800W/m<sup>2</sup> temperature=20°C wind speed=1m/s

## 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)

