



**15** Years

Product  
Warranty

**30** Years

Linear Power  
Warranty

## High Efficiency **TOPCon** Module

# GSM-MT4/156-BTDG650

615W | 620W | 625W | 630W | 635W  
640W | 645W | 650W

**650W**

Maximum  
Power Output

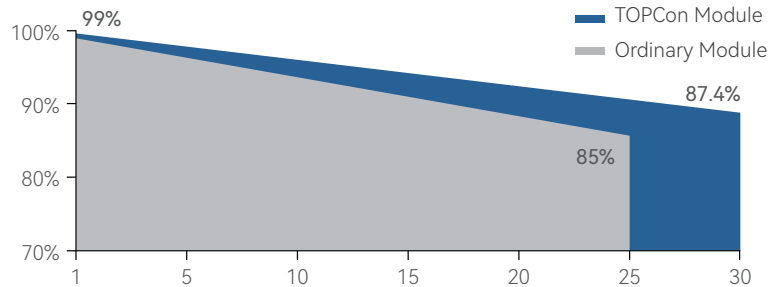
**23.25%**

Maximum  
Efficiency

**85±5%**

Bifaciality

### Quality Assurance



### Product Features



#### SMBB Half Cell

Multi-busbar half-cell design, higher module efficiency and power output



#### M10 Cell / Module

M10 size wafer, applicable to multiple scenarios



#### High Reliability

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



#### High Energy Yield

Maximum Module Efficiency up to 23.25% achieved by mature mass production HJT cell technology



#### Better Warranty

Extremely low LID/PID in longer service life, less than 12.6% power degradation in 30 years



#### Higher Performance

Lower temperature coefficient and low operation temperature, resulting in better energy yield in all-weather

### Certificates



**Electrical Data(STC)**

Model	GSM-MT4/156-BTDG615	GSM-MT4/156-BTDG620	GSM-MT4/156-BTDG625	GSM-MT4/156-BTDG630	GSM-MT4/156-BTDG635	GSM-MT4/156-BTDG640	GSM-MT4/156-BTDG645	GSM-MT4/156-BTDG650
Pmax(Wp)	615	620	625	630	635	640	645	650
Voc(V)	55.41	55.56	55.71	55.86	56.01	56.16	56.31	56.46
Isc(A)	14.17	14.24	14.31	14.38	14.45	14.52	14.59	14.66
Vmpp(V)	45.67	45.78	45.91	46.04	46.17	46.30	46.43	46.56
Impp(A)	13.47	13.55	13.62	13.69	13.76	13.83	13.90	13.97
Efficiency	22.00%	22.18%	22.36%	22.54%	22.72%	22.90%	23.07%	23.25%

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

**Electrical Characteristics(NOCT)**

Model	GSM-MT4/156-BTDG615	GSM-MT4/156-BTDG620	GSM-MT4/156-BTDG625	GSM-MT4/156-BTDG630	GSM-MT4/156-BTDG635	GSM-MT4/156-BTDG640	GSM-MT4/156-BTDG645	GSM-MT4/156-BTDG650
Pmax(Wp)	462	466	470	474	479	482	487	492
Voc(V)	52.56	52.71	52.86	53.01	53.16	53.31	53.46	53.61
Isc(A)	11.36	11.43	11.49	11.56	11.62	11.68	11.74	11.80
Vmpp(V)	43.01	43.16	43.31	43.46	43.50	43.58	43.73	43.88
Impp(A)	10.76	10.82	10.87	10.93	11.03	11.08	11.14	11.20

$\alpha_{isc} (\%/K) : 0.045$ ;  $\beta_{Voc} (\%/K) : -0.25$ ;  $\gamma_{Pmp} (\%/K) : -0.29$

AM1.5, irradiance: 800W/m<sup>2</sup>, Temperature=25°C, Wind speed=1m/s

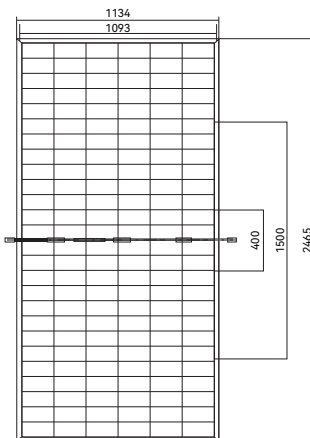
**Mechanical Data**

Cell	182.2x183.75/182.2x182.2/182x182 mm
Weight	35±0.5kg
Dimension	2465×1134×30mm
Cable	4mm <sup>2</sup> , 300mm (customized length based on needs)
Frame	Anodized aluminum
Junction Box	IP68, 1500VDC, 3Diodes
Packaging configuration (40' Container; 17.5' Trailer)	576pcs/container; 720pcs/13' Trailer; 792pcs/17.5' Trailer

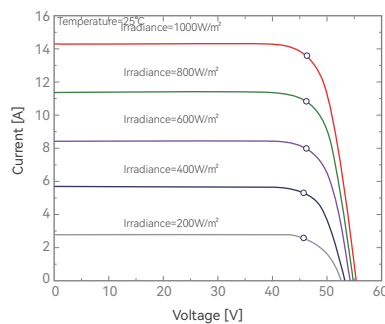
**Working Condition**

Maximum System Voltage	1500VDC
Operating Temperature	-40°C ~ +85°C
Maximum Fuse Rating	30A
Rear Side Mechanical Load	2400Pa
Front Side Mechanical Load	5400Pa
NOCT	44±2°C
Safety Rating	Class II
Grounding Electric Conductivity	< 0.1Ω

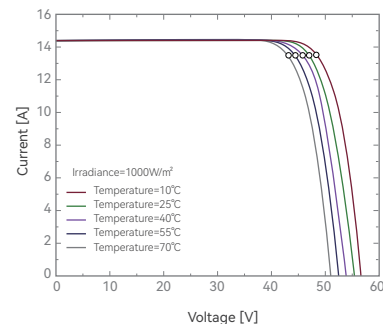
**Dimensions (mm)**



**I-V Diagram**



Different Irradiance



Different Temperature

\*If the data is subject to change, the latest release shall prevail.

