

## Shingled bifacial module

# TH635~675PMB6 69SDC



### Features of Module



**Shingling Technology**  
Innovative structure, low-temperature adhesive bonding, high-density layout.



**Beautiful Appearance**  
Uniform layout, better aesthetic.



**Superior Safety and Reliability**  
No hidden welding crack, low operating temperature, high pressure resistance.



**Low System Cost**  
High module efficiency, reducing system cost.



**Low Hot Spot Risk**  
Parallel circuit design reduces shading loss.



**Low Shading Loss**  
Full parallel arrangement brings high effective power generation hours.



**Eco-friendly**  
Adhering to green philosophy, no fluorine and low lead.

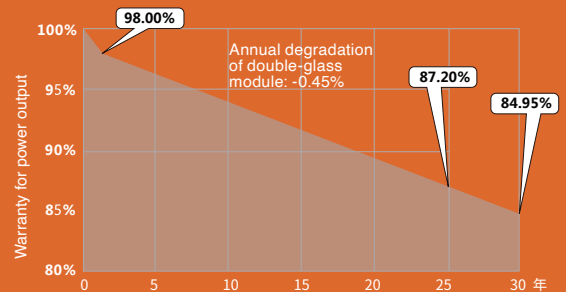
### Linear Power Output Warranty

**15**

15-year warranty for materials.

**30**

30-year warranty for linear power output.



### Quality Management System and Product Certification

IEC61215/61730、IEC62804(PID)、IEC61701(Salt)、  
IEC62716 (Ammonia)、IEC60068-2-68(Sand)  
ISO 9001:2015 / quality management system  
ISO 14001:2015 / environmental management system  
ISO 45001:2018 / occupation health safety management system  
ISO 50001:2011 / energy management system  
IEC TS 62941—2016 / PV industry quality management system



**Electrical Characteristics (STC)**

Module type: TH *** PMB6-69SDC	675	670	665	660	655	650	645	640	635
Maximum power - Pm (W)	675	670	665	660	655	650	645	640	635
Open circuit voltage - Voc (V)	47.2	47.1	47.0	46.9	46.8	46.7	46.6	46.5	46.4
Short circuit current Isc (A)	18.36	18.26	18.16	18.06	17.97	17.84	17.74	17.64	17.54
Maximum Power Voltage-Vm (V)	39.2	39.1	39.0	38.9	38.8	38.8	38.7	38.6	38.5
Maximum Power Current-Im (A)	17.26	17.16	17.07	16.98	16.89	16.77	16.68	16.58	16.49
Module Efficiency-η (%)	21.7	21.6	21.4	21.2	21.1	20.9	20.8	20.6	20.4

**Electrical Characteristics (NMOT)**

Maximum power - Pm (W)	508	504	501	497	493	489	486	482	478
Open circuit voltage - Voc (V)	45.0	44.9	44.8	44.7	44.5	44.4	44.3	44.2	44.2
Short circuit current Isc (A)	14.79	14.71	14.63	14.55	14.47	14.37	14.29	14.21	14.13
Maximum Power Voltage-Vm (V)	37.3	37.3	37.2	37.1	37.0	37.0	36.9	36.8	36.7
Maximum Power Current-Im (A)	13.61	13.54	13.46	13.39	13.32	13.25	13.17	13.10	13.02

\* STC: Irradiation 1000W/m<sup>2</sup>; AM1.5; environmental temperature 25°C; tested according to EN 60904-3;  
 \* NMOT: irradiation 800W/m<sup>2</sup>; wind speed 1m/s; environmental temperature 20°C;  
 \* Pm tolerance: 0~+5W; power test uncertainty: ±3%; Voc[V], Isc[A], Vm[V] and Im[A] test tolerance: ±3%  
 \* Bifaciality: 70%±5%;

**Comparison of Rear Power Gains (650W)**

Power Gain-PG	5%	10%	15%	20%	25%	30%
Maximum Power-Pm (W)	693	726	759	792	825	858
Open Circuit Voltage-Voc (V)	46.9	46.9	46.9	47.0	47.0	47.0
Short Circuit Current-Isc (A)	18.97	19.87	20.77	21.68	22.58	23.48
Maximum Power Voltage-Vm (V)	38.9	38.9	38.9	39.0	39.0	39.0
Maximum Power Current-Im (A)	17.83	18.68	19.53	20.38	21.23	22.07

**Mechanical Parameters**

Dimensions	2384×1303×35mm (L×W×H)
Weight	39.0kg
Front Glass	Tempered glass, 2.0mm
Frame	Anodized aluminum profile
Cells	Mono-crystalline solar cell
Cell Orientation	414 (69*6)
Junction Box	IP68, three diodes
Cable	4mm <sup>2</sup> , +500mm/-1000mm (Vertical), +250mm/-150mm (Horizontal)
Packaging mode	31pcs/ box; 558pcs/ 40' HQ; 744pcs/ flat car

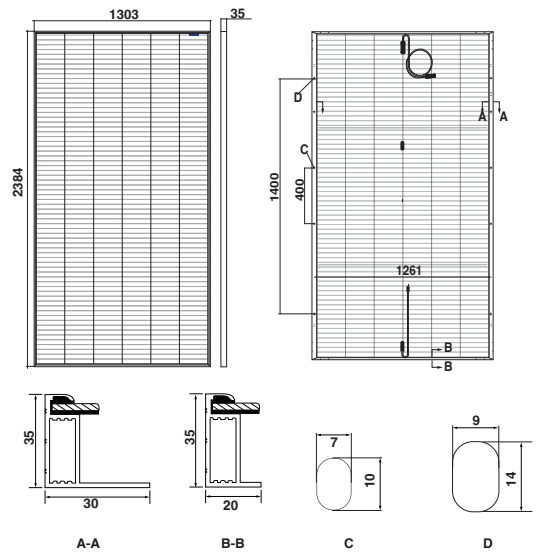
**Temperature Parameters**

NMOT	42.3°C(±2°C)
Temperature Coefficient of Voc	-0.27%/°C
Temperature Coefficient of Isc	0.04%/°C
Temperature Coefficient of Pm	-0.34%/°C

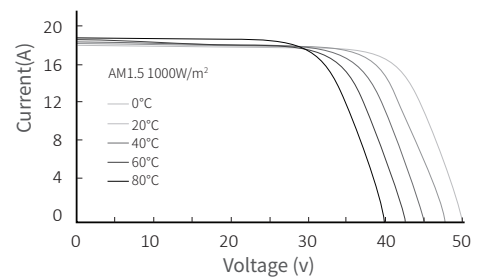
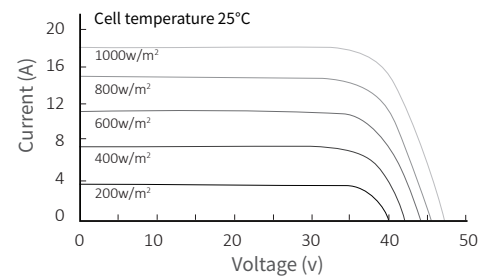
**Maximum Rated Parameters**

Maximum System Voltage (V)	DC1500
Series Fuse Rating (A)	30
Surface Load Capacity (Pa)	Front5400/ Back2400
Temperature Range (°C)	-40~+ 85
Withstanding Hail	Maximum diameter of 25 mm with impact speed of 23 m·s <sup>-1</sup>

**Drawings**



**I-V Curve**



**Statement:**

With technological progress and product updates, there may be deviations between the technical parameters of Tongwei's module products and the technical parameters contained in this specification, and Tongwei Solar has the right to adjust the technical parameters at any time without notifying the customer, the final interpretation of the technical specification is vested in Tongwei Solar.