

**BIFACIAL  
PERC MONOCRYSTALLINE  
132PMB12**

- ◆ TT675-132PMB12 675 Wp
- ◆ TT670-132PMB12 670 Wp
- ◆ TT665-132PMB12 665Wp
- ◆ TT660-132PMB12 660Wp
- ◆ TT655-132PMB12 655 Wp
- ◆ TT650-132PMB12 650 Wp



**High Conversion Efficiency**

High panel efficiency to guarantee high power output



**Self-Cleaning And Anti-Reflection Glass**

Coating glass for self-cleaning reduces surface dust



**Outstanding Low Irradiation Glass**

Outstanding panel performance even in weak light conditions



**Excellent Durability**

Wind load up to 2400 Pa, Snow load up to 5400 Pa

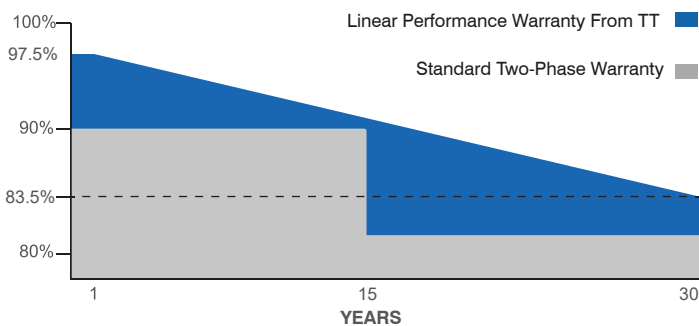
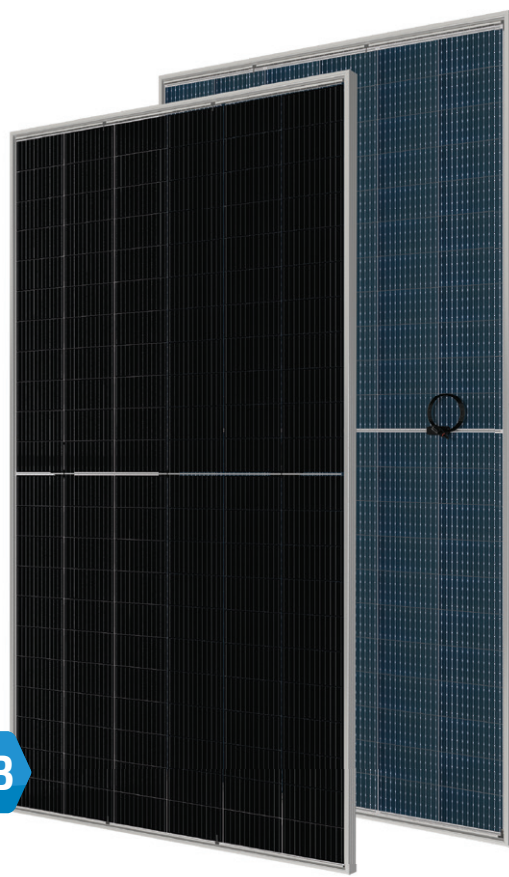


**0~ +5W Positive Power Tolerance**



**Easy Installation**

**12BB**



**Half-Cut**



IEC 61215, IEC 61730-1, IEC 61730-2  
IEC 62804 PID (POTENTIAL INDUCED DEGRADATION)  
IEC 61701 SALT MIST CORROSION  
IEC 62716 AMMONIA CORROSION  
ISO 9001:2015, ISO 14001:2015, ISO 45001:2018



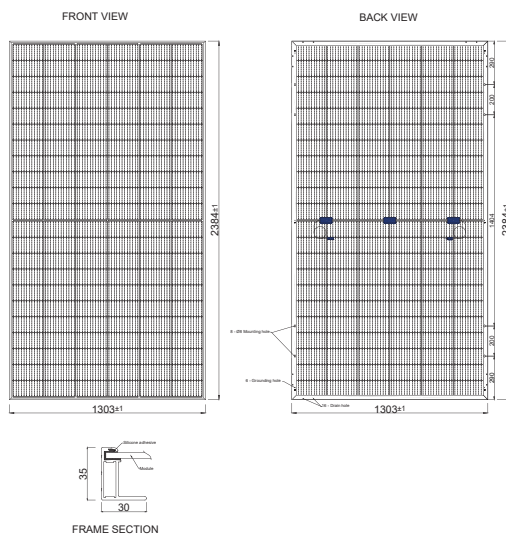
- ✓ 30 Years Performance Warranty
- ✓ 15 Years Product Warranty

Model Type	TT650 132PMB12	TT655 132PMB12	TT660 132PMB12	TT665 132PMB12	TT670 132PMB12	TT675 132PMB12
Peak Power (Pmax)	650 Wp	655Wp	660Wp	665Wp	670Wp	675Wp
Module Efficiency	20.92	21.09	21.25	21.41	21.57	21.73
Maximum Power Voltage (Vmp)	37.50	37.70	37.90	38.10	38.30	38.50
Maximum Power Current (Imp)	17.34	17.38	17.42	17.46	17.50	17.54
Open Circuit Voltage (Voc)	45.20	45.40	45.60	45.80	46.00	46.20
Short Circuit Current (Isc)	18.35	18.39	18.44	18.48	18.51	18.56
Power Tolerance	0~+5W					
Maximum System Voltage	1500V DC					
Operating Temperature	-40 ~ +85°C					
Protection Class	Class II					
Maximum Series Fuse Rating	30A					

## MECHANICAL SPECIFICATIONS

Cell Dimensions(mm)	210x105
Cells per Module(pcs)	132 (6x22)
Weight(kg)	34.5
Panel Dimensions(mm)	2384x1303x35
Max. Wind/Snow Load(Pa)	2400/5400
Junction Box	IP68
Junction Box Cable Length(mm)	350-1600

## PHYSICAL CHARACTERISTICS



## REAR SIDE POWER GAIN

(660W Front Power Referenced)

Rear Power Gain	5%	10%	15%	20%	25%
Maximum Power (Pmax)	693	726	759	792	825
Short Circuit Current (Isc)	19.32	20.24	21.05	21.96	22.88
Open Circuit Voltage (Voc)	45.60	45.60	45.80	45.80	45.80
Maximum Power Current (Imp)	18.19	19.06	19.82	20.68	21.54
Maximum Power Voltage (Vmp)	38.10	38.10	38.30	38.30	38.30

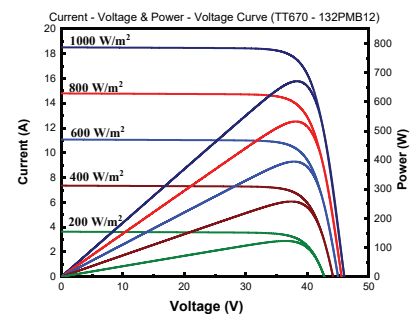
## TEMPERATURE CHARACTERISTICS

Temp. Coeff. of (Isc)	0.040%/°C
Temp. Coeff. of (Voc)	-0.260%/°C
Temp. Coeff. of (Pmax)	-0.340%/°C

## PACKING CONFIGURATION

Container	40' GP
Pieces per Pallet	31
Pieces per Container	527
Pallet Per Container	17

## ELECTRICAL CHARACTERISTICS



\* The specifications are obtained under the standard test conditions: 1000W/m2 solar irradiance, 1.5 Air Mass and cell temperature of 25°C. Measurement uncertainty for all panels is 6%. The actual transactions will be subject to the contracts. These parameters are for reference only and it is not a part of the contracts. The technical specifications in this document may vary. For more information, refer to the "Installation Manual".

\* For roof, facades and installations on similar surfaces, solar panels should be mounted over a fire-resistant covering suitable for this application, with adequate ventilation between the back of the solar panels and the mounting surface. Improper installations are hazardous and may spark a fire. Solar panels must not be mounted on structures and roofs which are made of not fire-resistant materials such as plastic layer, transparent plastic, PVC or similar materials without any fire-protection layer. Usage and installation not in accordance with the guidelines as outlined in the installation manual will terminate the warranty. Please refer to the installation manual and the warranty documents for further details.

\* TommaTech® GmbH reserves the right to change the specification of products without prior notice.

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