

**BIFACIAL TOPCON  
MONOCRYSTALLINE 108TNB12R**

- ◆ TT535-108TNB12R 535 Wp
- ◆ TT530-108TNB12R 530 Wp
- ◆ TT525-108TNB12R 525 Wp
- ◆ TT520-108TNB12R 520 Wp
- ◆ TT515-108TNB12R 515 Wp
- ◆ TT510-108TNB12R 510 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**



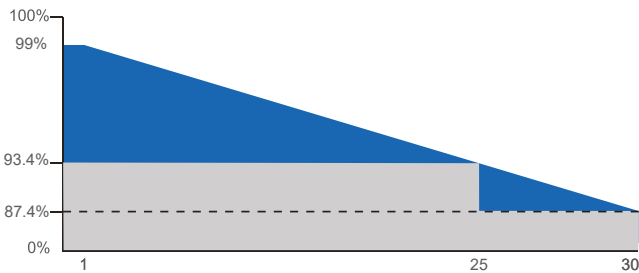
**Easy Installation**



**Double Sided Power Generation**



Linear Performance Warranty From TT ■  
Standard Two-Phase Warranty ■



- ✓ 30 Years Performance Warranty
- ✓ 25 Years Product Warranty

**Half-Cut** DOUBLE GLASS



IEC 61215, IEC 61730-1, IEC 61730-2  
ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

Model Type	TT510 108TNB12R	TT515 108TNB12R	TT520 108TNB12R	TT525 108TNB12R	TT530 108TNB12R	TT535 108TNB12R
Peak Power (P <sub>max</sub> )	510Wp	515Wp	520Wp	525Wp	530Wp	535Wp
Module Efficiency	22.89	23.11	23.34	23.56	23.78	24.01
Maximum Power Voltage (V <sub>mp</sub> )	33.75	33.95	34.15	34.35	34.55	34.75
Maximum Power Current (I <sub>mp</sub> )	15.12	15.17	15.23	15.29	15.35	15.40
Open Circuit Voltage (V <sub>oc</sub> )	39.95	40.15	40.35	40.55	40.75	40.95
Short Circuit Current (I <sub>sc</sub> )	15.95	16.01	16.07	16.13	16.19	16.25
Power Tolerance	0~+5W					
Maximum System Voltage	1500V DC					
Operating Temperature	-40 ~ +85°C					
Protection Class	UL Type 29					
Maximum Series Fuse Rating	25A					

## MECHANICAL SPECIFICATIONS

Cell Dimensions (mm/inch)	182x105 / 7.17x4.14
Cells per Module (pcs)	108 (6x18)
Weight (kg/lbs)	27.80 / 61.29
Panel Dimensions (mm/inch)	1965x1134x30 / 77.36x44.65x1.20
Max. Wind/Snow Load (Pa)	2400/5400
Junction Box	IP68
Junction Box Cable Length (mm/inch)	300-1600 / 11.81-63.00
Glass Thickness (mm/inch)	2.0 - 2.0 / 0.08 - 0.08

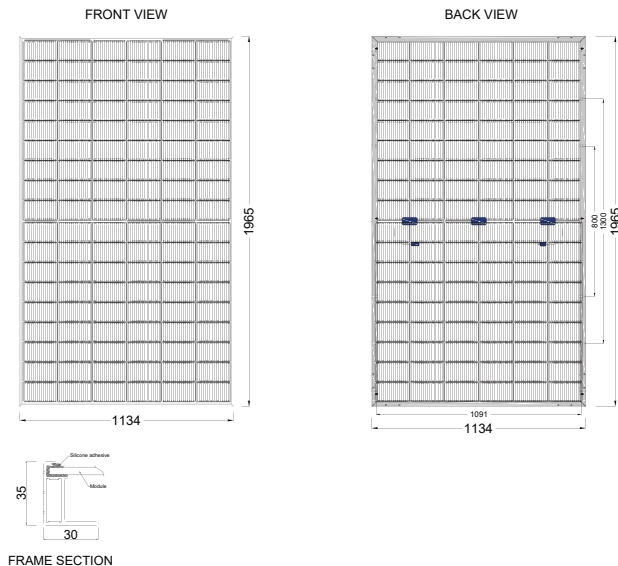
## TEMPERATURE CHARACTERISTICS

Temp. Coeff. of (I <sub>sc</sub> )	0.041%/°C
Temp. Coeff. of (V <sub>oc</sub> )	-0.25%/°C
Temp. Coeff. of (P <sub>max</sub> )	-0.29%/°C

## PACKING CONFIGURATION

Container	40' HC
Pieces per Pallet	36
Pieces per Container	720
Pallet Per Container	20

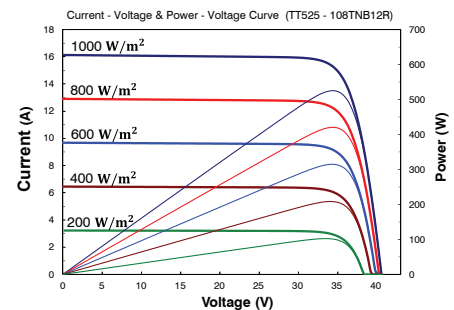
## PHYSICAL CHARACTERISTICS



## REAR SIDE POWER GAIN

Rear Power Gain	510	515	520	525	530	535
Maximum Power (P <sub>max</sub> )	561.00	566.50	572.00	577.50	583.00	588.50
Short Circuit Current (I <sub>sc</sub> )	17.55	17.61	17.68	17.74	17.81	17.88
Open Circuit Voltage (V <sub>oc</sub> )	39.95	40.15	40.35	40.55	40.75	40.95
Maximum Power Current (I <sub>mp</sub> )	16.63	16.69	16.75	16.82	16.89	16.94
Maximum Power Voltage (V <sub>mp</sub> )	33.75	33.95	34.15	34.35	34.55	34.75

## ELECTRICAL CHARACTERISTICS



\* The specifications are obtained under the standard test conditions: 1000W/m<sup>2</sup> 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.