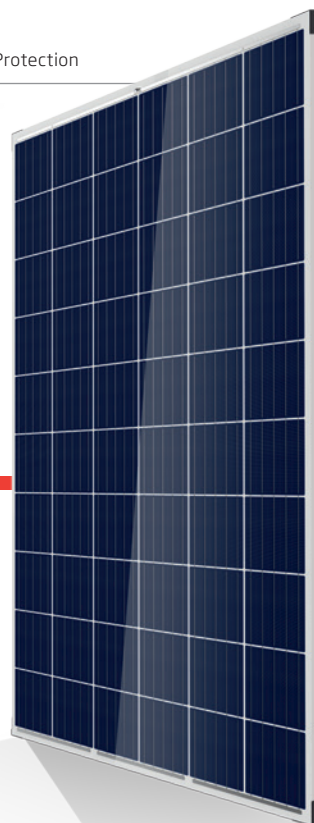


# DUOMAX MODULE

TSM-PEG5



**60 CELL**  
MULTICRYSTALLINE MODULE

**270-285W**  
POWER OUTPUT RANGE

**17,3%**  
MAXIMUM EFFICIENCY

**0/+5W**  
POSITIVE POWER TOLERANCE

Founded in 1997, Trina Solar is the world's leading comprehensive solutions provider for solar energy. We believe close cooperation with our partners is critical to success. Trina Solar now distributes its PV products to over 60 countries all over the world. Trina Solar is able to provide exceptional service to each customer in each market and supplement our innovative, reliable products with the backing of Trina Solar as a strong, bankable partner. We are committed to building strategic, mutually beneficial collaboration with installers, developers, distributors and other partners.

## Comprehensive Product And System Certificates

IEC61215/IEC61730/UL1703/IEC61701/IEC62716  
 ISO 9001: Quality Management System  
 ISO 14001: Environmental Management System  
 ISO14064: Greenhouse Gas Emissions Verification  
 OHSAS 18001: Occupational Health and Safety Management System



### Improved durability

- Anti PID
- Reduced soiling due to natural cleaning
- Increased module robustness to minimize micro-cracks



### Enhanced safety

- Fire class A certified by TUV Rheinland according to fire test IEC 61730-2 / MST 23
- Certified for fire type13 (UL 1703)



### Increased value

- 1,500 V system voltage reduces BOS costs by increased string length
- 30 year linear warranty
- 0,5 % annual degradation



### Highly reliable due to stringent quality control

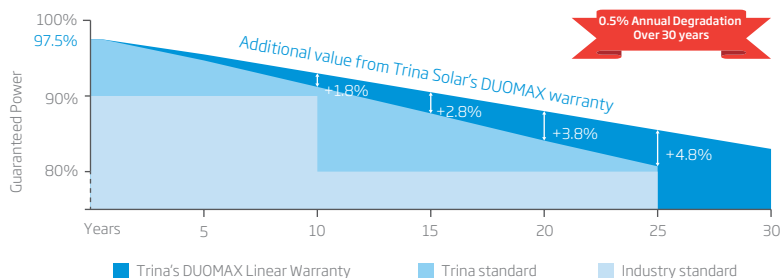
- Over 30 in-house tests (UV, TC, HF, and many more)
- In-house testing goes well beyond certification requirements
- All modules have to pass electroluminescence (EL) inspection
- PID resistant
- 1000 V UL/1500 V IEC certified



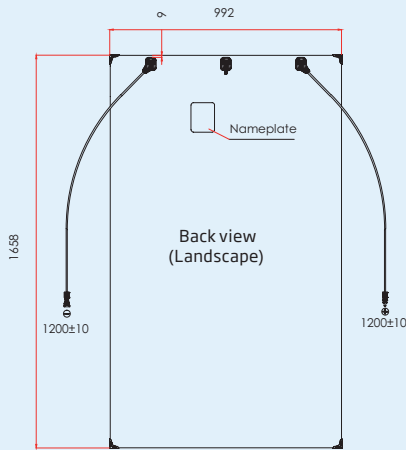
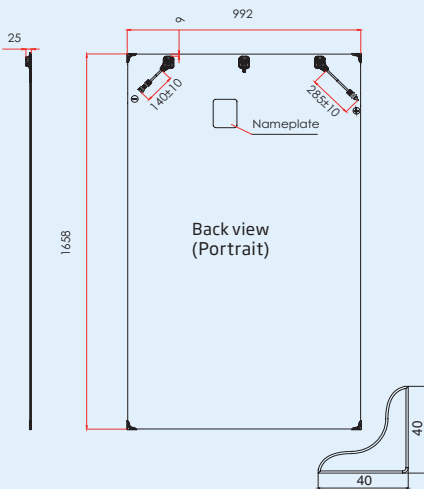
### Certified to withstand challenging environmental conditions

- Module coating resistant to sand, acid, and alkali
- 2400 Pa wind load
- 5400 Pa snow load
- 35 mm hail stones at 97 km/h

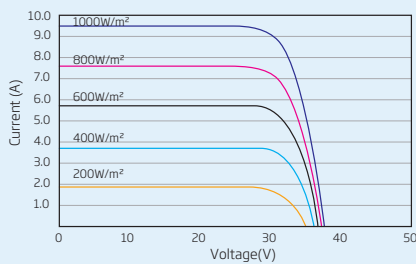
Trina Solar's DUOMAX Linear Performance Warranty



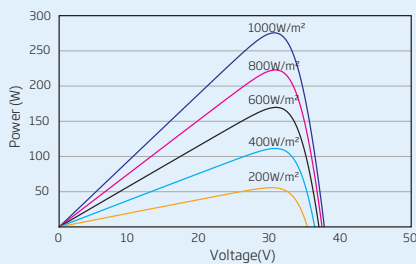
## DIMENSIONS OF PV MODULE TSM-PEG5 (unit: mm)



### I-V CURVES OF PV MODULE (280W)



### P-V CURVES OF PV MODULE (280W)



ELECTRICAL DATA @ STC	TSM-270	TSM-275	TSM-280	TSM-285
Peak Power Watts- $P_{MAX}$ (Wp)*	270	275	280	285
Power Output Tolerance- $P_{MAX}$ (W)	0/+5	0/+5	0/+5	0/+5
Maximum Power Voltage- $V_{MPP}$ (V)	31,1	31,3	31,6	32,0
Maximum Power Current- $I_{MPP}$ (A)	8,69	8,78	8,87	8,91
Open Circuit Voltage- $V_{OC}$ (V)	38,0	38,2	38,4	38,6
Short Circuit Current- $I_{SC}$ (A)	9,28	9,31	9,32	9,36
Module Efficiency $\eta_m$ (%)	16,4	16,7	17,0	17,3

STC: Irradiance 1000 W/m<sup>2</sup>, Cell Temperature 25 °C, Air Mass AM1.5  
\* Measuring tolerance: ±3%

ELECTRICAL DATA @ NOCT	TSM-270	TSM-275	TSM-280	TSM-285
Maximum Power- $P_{MAX}$ (Wp)	200	204	208	211
Maximum Power Voltage- $U_{MPP}$ (V)	28,8	29,0	29,2	29,6
Maximum Power Current- $I_{MPP}$ (A)	6,97	7,04	7,11	7,14
Open Circuit Voltage- $U_{OC}$ (V)	35,2	35,4	35,6	35,8
Short Circuit Current- $I_{SC}$ (A)	7,49	7,52	7,52	7,56

NOCT: Irradiance at 800 W/m<sup>2</sup>, Ambient Temperature 20 °C, Wind Speed 1 m/s.

### MECHANICAL DATA

Solar Cells	Multicrystalline 156,75 × 156,75 mm
Cell Orientation	60 cells (6 x 10)
Module Dimensions	1658 × 992 × 6 mm 1662 × 996 × 6 mm with edge banding 1664 × 998 × 7,6 mm with corner protector (Std)*
Weight	23,0 kg
Front Glass	2,5 mm, high transparency, AR coated and heat strengthened glass
EVA	White
Back Glass	2,5 mm, heat strengthened glass
Frame	Frameless
J-Box	IP 67 rated or IP 68 rated
Cables	Photovoltaic Technology Cable 4,0 mm <sup>2</sup> Portrait: 140/285 mm, Landscape: 1200/1200 mm
Connector	MC4 EVO2/UTX/TS4

\* Do not combine with slide-in solutions.

### TEMPERATURE RATINGS

Nominal Operating Cell Temperature (NOCT)	44 °C (±2K)
Temperature Coefficient of $P_{MAX}$	- 0,41%/K
Temperature Coefficient of $V_{OC}$	- 0,32%/K
Temperature Coefficient of $I_{SC}$	0,05%/K

### MAXIMUM RATINGS

Operational Temperature	-40 to +85 °C
Maximum System Voltage	1500VDC (IEC) 1000VDC (UL)
Max Series Fuse Rating**	15 A
Mechanical Load*	5400 Pa
Wind Load*	2400 Pa

\* Max. mechanical loading values depend on the mounting method applied and only clamps approved by Trina Solar should be used.

\*\* DO NOT connect fuse in combiner box with two or more strings in parallel connection.

### WARRANTY

10 year Product Workmanship Warranty

30 year Linear Performance Warranty

(Please refer to product warranty for details)

### PACKAGING CONFIGURATION

Modules per box:	33 pieces
Modules per 40' container:	858 pieces

### MORE OPTIONS

Compact AR (Antireflective) coating

POE (Polyolefin Elastomer) foil