

# TSM-PC05

## THE UNIVERSAL MODULE



**60 CELL**  
MULTICRYSTALLINE MODULE

**235–245W**  
POWER OUTPUT RANGE

**15.0%**  
MAXIMUM EFFICIENCY

**0 to +3%**  
POSITIVE POWER TOLERANCE

### TRINA SOLAR: A STRONG AND RELIABLE PARTNER

As a leading global manufacturer of next generation photovoltaic products, Trina Solar is committed to building mutually beneficial alliances with installers, developers, distributors and technological partners as the backbone of our shared goal to drive Smart Energy Together. Thanks to an extensive sales and service network with local expert teams throughout Europe, Trina Solar is perfectly positioned to support your needs. With Trina Solar as your strong, bankable partner you can rest assured knowing that you've made the right choice.

[www.trinasolar.com](http://www.trinasolar.com)



#### Our most versatile product

- Compatible with all major BOS components and system designs



#### One of the industry's most trusted modules

- Over 2GW sold across all major global markets
- Field proven performance
- Trina Solar's financial solidity consistently confirmed by banks and investors



#### Highly reliable due to stringent quality control

- All modules have to pass electroluminescence (EL) inspection
- Over 30 in-house tests (UV, TC, HF, and many more)
- In-house testing goes well beyond certification requirements

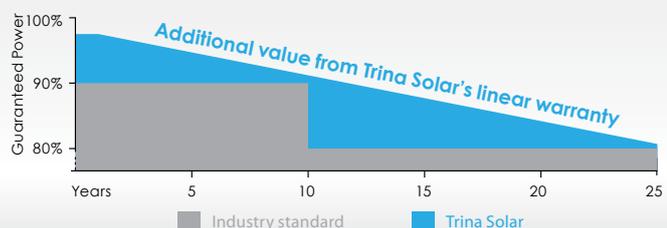


#### Certified to withstand challenging environmental conditions

- 130 km/hr wind load (2400 Pa)
- 900 kg snow load per module (5400 Pa)
- Proven resistance to ammonia and salt mist environments

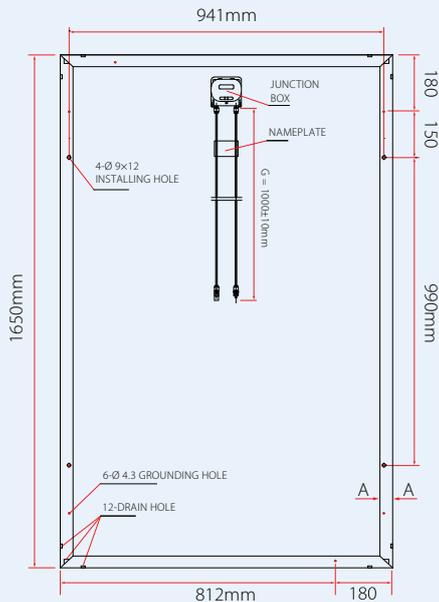
### LINEAR PERFORMANCE WARRANTY

10 Year Product Warranty • 25 Year Linear Power Warranty

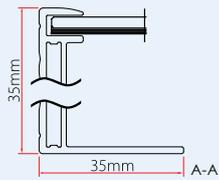


# TSM-PC05 THE UNIVERSAL MODULE

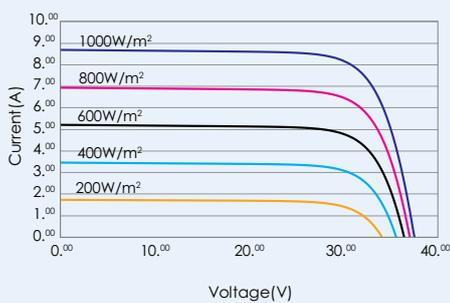
## DIMENSIONS OF PV MODULE TSM-PC05



Back View



## I-V CURVES OF PV MODULE TSM-245 PC05



## CERTIFICATION

IEC61215/EN61215  
IEC61730/EN61730  
IEC 627162 PtG 1917/05.11  
IEC 61701  
DIN EN 60068-2-68 LC2  
MCS BBA 0016  
ICIM 45R038  
ICIM 70R045



| ELECTRICAL DATA @ STC                 | TSM-235 PC05 | TSM-240 PC05 | TSM-245 PC05 |
|---------------------------------------|--------------|--------------|--------------|
| Peak Power Watts- $P_{MAX}$ (Wp)      | 235          | 240          | 245          |
| Power Output Tolerance- $P_{MAX}$ (%) | 0/+3         | 0/+3         | 0/+3         |
| Maximum Power Voltage- $V_{MPP}$ (V)  | 29.3         | 29.7         | 30.2         |
| Maximum Power Current- $I_{MPP}$ (A)  | 8.03         | 8.10         | 8.13         |
| Open Circuit Voltage- $V_{OC}$ (V)    | 37.2         | 37.3         | 37.5         |
| Short Circuit Current- $I_{sc}$ (A)   | 8.55         | 8.62         | 8.68         |
| Module Efficiency $\eta_m$ (%)        | 14.4         | 14.7         | 15.0         |

STC: Irradiance 1000 W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3. Average efficiency reduction of 4.5% at 200 W/m<sup>2</sup> according to EN 60904-1.

| ELECTRICAL DATA @ NOCT               | TSM-235 PC05 | TSM-240 PC05 | TSM-245 PC05 |
|--------------------------------------|--------------|--------------|--------------|
| Maximum Power- $P_{MAX}$ (Wp)        | 171          | 174          | 178          |
| Maximum Power Voltage- $U_{MPP}$ (V) | 26.4         | 26.6         | 26.8         |
| Maximum Power Current- $I_{MPP}$ (A) | 6.48         | 6.55         | 6.64         |
| Open Circuit Voltage- $U_{OC}$ (V)   | 34.0         | 34.1         | 34.2         |
| Short Circuit Current- $I_{sc}$ (A)  | 6.97         | 7.04         | 7.10         |

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

## MECHANICAL DATA

|                  |   |
|------------------|---|
| Solar Cells      | Multicrystalline 156 x 156mm                                |
| Cell Orientation | 60 cells (6 x 10)   |
| Module Dimension | 1650 x 992 x 35 mm  |
| Weight           | 18.6 kg   |
| Glass            | High Transparency Solar Glass 3.2 mm                        |
| Backsheet        | White   |
| Frame            | Silver Anodized Aluminium Alloy                             |
| J-Box            | IP 65 or IP 67 rated  |
| Cables           | Photovoltaic Technology Cable 4.0 mm <sup>2</sup> , 1000 mm |
| Connector        | Original MC4  |

## TEMPERATURE RATINGS

|   |             |
|---|-------------|
| Nominal Operating Cell Temperature (NOCT) | 45°C (±2°K) |
| Temperature Coefficient of $P_{MAX}$      | - 0.43%/°K  |
| Temperature Coefficient of $V_{OC}$       | - 0.32%/°K  |
| Temperature Coefficient of $I_{sc}$       | 0.047%/°K   |

## MAXIMUM RATINGS

|                         |                |
|-------------------------|----------------|
| Operational Temperature | -40 to +85°C   |
| Maximum System Voltage  | 1000V DC (IEC) |
| Max Series Fuse Rating  | 15A            |

## WARRANTY

10 year Product Workmanship Warranty

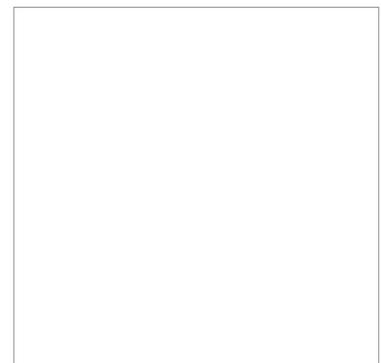
25 year Linear Power Warranty

(Please refer to product warranty for details)

## PACKAGING CONFIGURATION

Modules per box: 29 pieces

Modules per 40' container: 812 pieces



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