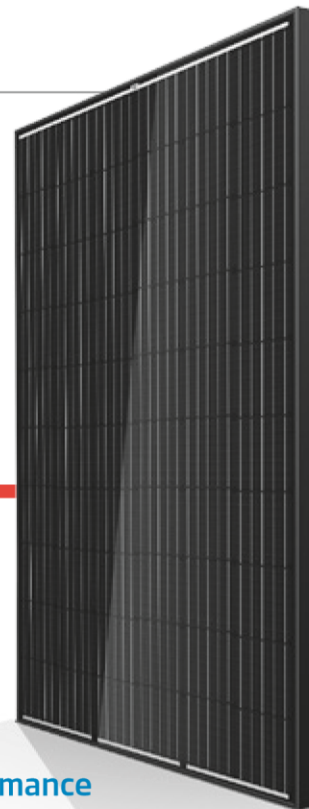


# Honey<sup>M</sup> PLUS<sup>+</sup> MODULE

## TSM-DD05A.05 (II) IN BLACK



**60 CELL**  
MONOCRYSTALLINE MODULE

**275-310W**  
POWER OUTPUT RANGE

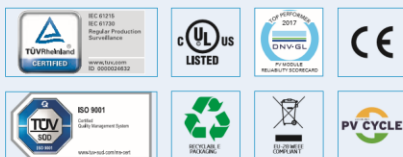
**18,9%**  
MAXIMUM EFFICIENCY

**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



### Excellent low light performance on cloudy days, mornings and evenings

- Advanced surface texturing
- Back surface field
- Selective emitter



### Maximize Limited Space with high efficiency

- Up to 189 W/m<sup>2</sup> power density
- Low thermal coefficients for greater energy production at high operating temperatures



### Great aesthetics for dark roofs

- Dark mono cells
- Black frame and backsheet



### 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
- PID resistant
- 1000 V UL/1000 V IEC certified



### Certified to withstand challenging environmental conditions

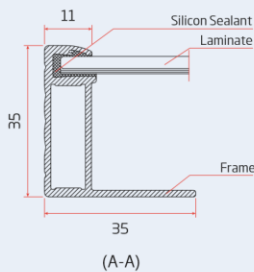
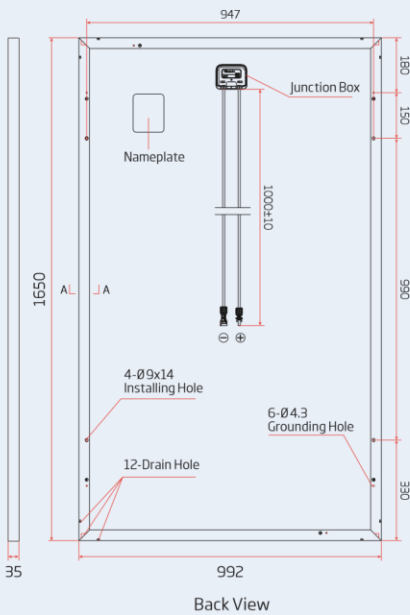
- 2400 Pa wind load
- 5400 Pa snow load
- 35 mm hail stones at 97 km/h
- Ammonia resistance
- Salt mist resistance
- Resistance to sand and dust abrasion

### LINEAR PERFORMANCE WARRANTY

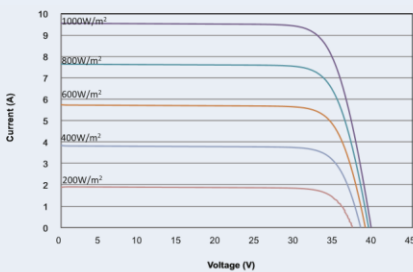
10 Year Product Warranty · 25 Year Linear Power Warranty



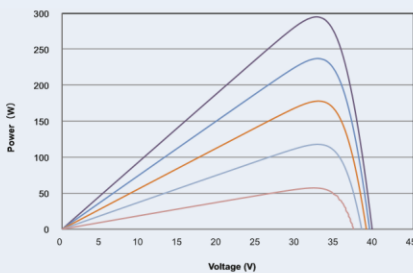
**DIMENSIONS OF PV MODULE**  
TSM-DD05A.05 (II)  
(unit: mm)



**I-V CURVES OF PV MODULE (295W)**



**P-V CURVES OF PV MODULE (295W)**



| ELECTRICAL DATA @ STC                       | TSM-275 | TSM-280 | TSM-285 | TSM-290 | TSM-295 | TSM-300 | TSM-305 | TSM-310 |
|---|---------|---------|---------|---------|---------|---------|---------|---------|
| Peak Power Watts-P <sub>MAX</sub> (Wp)*     | 275     | 280     | 285     | 290     | 295     | 300     | 305     | 310     |
| Power Output Tolerance-P <sub>MAX</sub> (W) | 0/+5    | 0/+5    | 0/+5    | 0/+5    | 0/+5    | 0/+5    | 0/+5    | 0/+5    |
| Maximum Power Voltage-V <sub>MPP</sub> (V)  | 31,4    | 31,7    | 31,8    | 32,2    | 32,5    | 32,6    | 32,9    | 33,2    |
| Maximum Power Current-I <sub>MPP</sub> (A)  | 8,76    | 8,84    | 8,97    | 9,01    | 9,08    | 9,19    | 9,28    | 9,37    |
| Open Circuit Voltage-V <sub>OC</sub> (V)    | 38,4    | 38,4    | 38,5    | 38,9    | 39,6    | 39,8    | 40,0    | 40,2    |
| Short Circuit Current-I <sub>SC</sub> (A)   | 9,24    | 9,42    | 9,51    | 9,66    | 9,68    | 9,77    | 9,85    | 9,94    |
| Module Efficiency η <sub>m</sub> (%)        | 16,8    | 17,1    | 17,4    | 17,7    | 18,0    | 18,3    | 18,6    | 18,9    |

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

| ELECTRICAL DATA @ NOCT                     | TSM-275 | TSM-280 | TSM-285 | TSM-290 | TSM-295 | TSM-300 | TSM-305 | TSM-310 |
|--|---------|---------|---------|---------|---------|---------|---------|---------|
| Maximum Power-P <sub>MAX</sub> (Wp)        | 205     | 209     | 212     | 216     | 220     | 223     | 227     | 231     |
| Maximum Power Voltage-U <sub>MPP</sub> (V) | 29,1    | 29,4    | 29,5    | 29,9    | 30,1    | 30,2    | 30,5    | 30,8    |
| Maximum Power Current-I <sub>MPP</sub> (A) | 7,04    | 7,10    | 7,21    | 7,24    | 7,30    | 7,38    | 7,46    | 7,53    |
| Open Circuit Voltage-U <sub>OC</sub> (V)   | 35,7    | 35,7    | 35,8    | 36,2    | 36,8    | 37,0    | 37,2    | 37,4    |
| Short Circuit Current-I <sub>SC</sub> (A)  | 7,46    | 7,61    | 7,68    | 7,80    | 7,82    | 7,89    | 7,95    | 8,03    |

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

**MECHANICAL DATA**

|                   |  |
|-------------------|--|
| Solar Cells       | Monocrystalline 156,75 × 156,75 mm                                 |
| Cell Orientation  | 60 cells (6 x 10)  |
| Module Dimensions | 1650 × 992 × 35 mm   |
| Weight            | 18,6 kg  |
| Glass             | 3,2 mm, high transparency, AR coated and heat tempered solar glass |
| Backsheet         | Black  |
| Frame             | Black Anodized Aluminium Alloy                                     |
| J-Box             | IP 67 or IP 68 rated   |
| Cables            | Photovoltaic Technology Cable 4,0mm <sup>2</sup> , 1000 mm         |
| Connector         | EU Countries: 28 MC4 / UTX / TS4, Non-EU Countries: 28 QC4 / TS4   |

**TEMPERATURE RATINGS**

|   |            |
|---|------------|
| Nominal Operating Cell Temperature (NOCT)   | 44°C (±2K) |
| Temperature Coefficient of P <sub>MAX</sub> | -0,39%/K   |
| Temperature Coefficient of V <sub>OC</sub>  | -0,29%/K   |
| Temperature Coefficient of I <sub>SC</sub>  | 0,05%/K    |

**MAXIMUM RATINGS**

|                         |  |
|-------------------------|--|
| Operational Temperature | -40 to +85°C                                 |
| Maximum System Voltage  | 1000V DC (IEC)<br>1000V DC (UL)              |
| Max Series Fuse Rating* | 15 A (Power ≤ 285 W)<br>20 A (Power ≥ 290 W) |
| Mechanical Load         | 5400 Pa                                      |
| Wind Load               | 2400 Pa                                      |

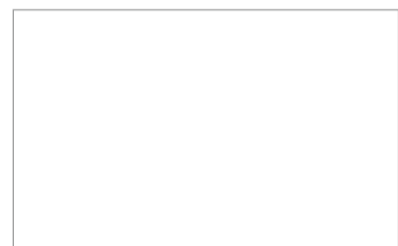
\*DO NOT connect fuse in combiner box with two or more strings in parallel connection

**WARRANTY**

|  |
|--|
| 10 year Product Workmanship Warranty           |
| 25 year Linear Performance Warranty            |
| (Please refer to product warranty for details) |

**PACKAGING CONFIGURATION**

|                            |            |
|----------------------------|------------|
| Modules per box:           | 30 pieces  |
| Modules per 40' container: | 840 pieces |



TSM\_EN\_2017\_B

