

# HoneyBlack<sup>M</sup>

TSM-DD06M.05(II)

**120 HALF-CUT**  
MONOCRYSTALLINE CELLS

**310-335W**  
POWER OUTPUT RANGE

**19.9%**  
MAXIMUM EFFICIENCY

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

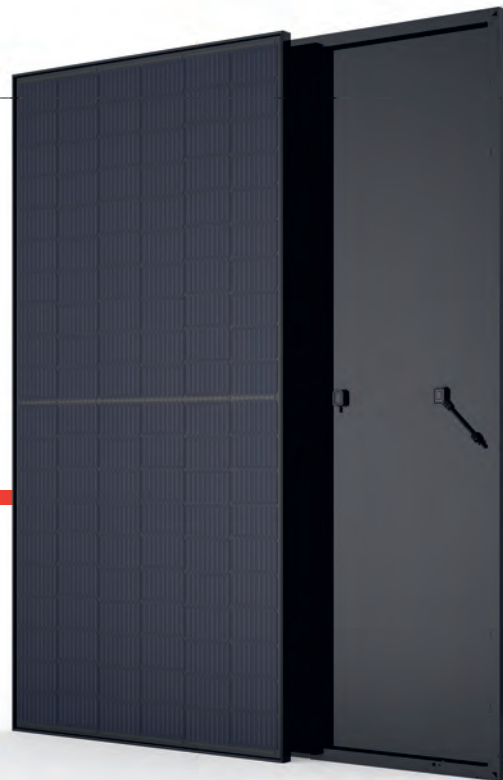
Founded in 1997, Trina Solar is the world's leading comprehensive solutions provider for solar energy. We believe close cooperation with our partners is critical to success. Trina Solar now distributes its PV products to over 60 countries all over the world. Trina Solar is able to provide exceptional 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 Salt Mist Corrosion  
IEC62716 Ammonia Corrosion  
IEC60068 Blowing Sand  
ISO9001; ISO14001; OHSAS18001



**Trina**solar



### High power output

- Multi busbar technology combined with mono PERC cells
- Maximize limited space with up to 199 W/m<sup>2</sup> power density



### Outstanding visual appearance

- Ideal for residential rooftop application
- Designed with aesthetics in mind
- Ultra-thin, virtually invisible busbars



### Half-cut cell design brings higher efficiency

- Low thermal coefficients for higher energy yield at elevated operating temperatures
- Reduced interconnection losses



### 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
- PID resistant
- 2x 100% inline EL inspection

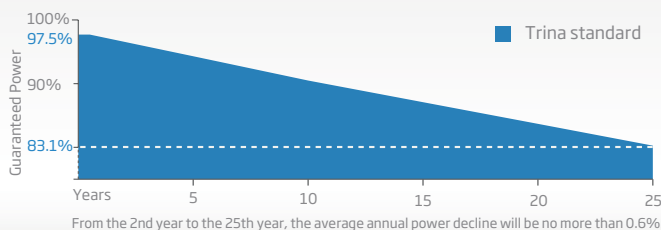


### Certified to withstand challenging environmental conditions

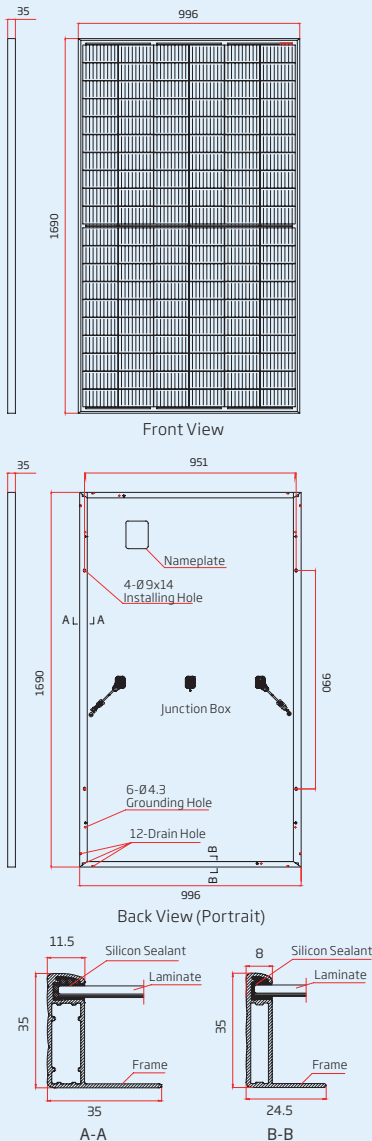
- Salt Mist Corrosion
- Ammonia Corrosion
- Blowing Sand

## PERFORMANCE WARRANTY

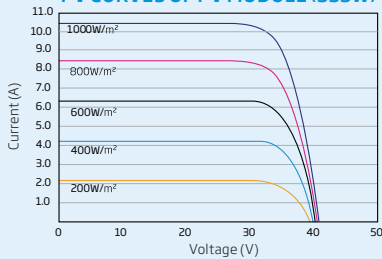
10 Year Product Warranty · 25 Year Power Warranty



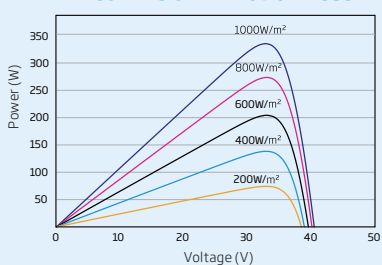
### DIMENSIONS OF PV MODULE TSM-DD06M.05(II) (unit: mm)



### I-V CURVES OF PV MODULE (335W)



### P-V CURVES OF PV MODULE (335W)



| ELECTRICAL DATA @ STC                 | TSM-310 | TSM-315 | TSM-320 | TSM-325 | TSM-330 | TSM-335 |
|---------------------------------------|---------|---------|---------|---------|---------|---------|
| Peak Power Watts- $P_{MAX}$ (Wp)*     | 310     | 315     | 320     | 325     | 330     | 335     |
| Power Output Tolerance- $P_{MAX}$ (W) | 0/+5    | 0/+5    | 0/+5    | 0/+5    | 0/+5    | 0/+5    |
| Maximum Power Voltage- $U_{MPP}$ (V)  | 33.0    | 33.2    | 33.4    | 33.6    | 33.8    | 34.0    |
| Maximum Power Current- $I_{MPP}$ (A)  | 9.40    | 9.49    | 9.58    | 9.67    | 9.76    | 9.85    |
| Open Circuit Voltage- $U_{OC}$ (V)    | 39.9    | 40.1    | 40.3    | 40.4    | 40.6    | 40.7    |
| Short Circuit Current- $I_{SC}$ (A)   | 10.03   | 10.12   | 10.20   | 10.30   | 10.40   | 10.50   |
| Module Efficiency $\eta_m$ (%)        | 18.4    | 18.7    | 19.0    | 19.3    | 19.6    | 19.9    |

STC: Irradiance 1000 W/m², Cell Temperature 25 °C, Air Mass AM1.5  
\* Measuring tolerance:  $\pm 3\%$

| ELECTRICAL DATA @ NMOT               | TSM-310 | TSM-315 | TSM-320 | TSM-325 | TSM-330 | TSM-335 |
|--------------------------------------|---------|---------|---------|---------|---------|---------|
| Maximum Power- $P_{MAX}$ (Wp)        | 235     | 238     | 242     | 246     | 250     | 254     |
| Maximum Power Voltage- $U_{MPP}$ (V) | 31.0    | 31.2    | 31.4    | 31.6    | 31.7    | 31.9    |
| Maximum Power Current- $I_{MPP}$ (A) | 7.57    | 7.64    | 7.71    | 7.79    | 7.86    | 7.94    |
| Open Circuit Voltage- $U_{OC}$ (V)   | 37.6    | 37.8    | 38.0    | 38.1    | 38.3    | 38.4    |
| Short Circuit Current- $I_{SC}$ (A)  | 8.08    | 8.15    | 8.22    | 8.30    | 8.38    | 8.46    |

NMOT: Irradiance 800 W/m², Ambient Temperature 20 °C, Wind Speed 1 m/s.

### MECHANICAL DATA

|                      |                                                                                       |
|----------------------|---------------------------------------------------------------------------------------|
| Solar Cells          | Monocrystalline                                                                       |
| Cell Orientation     | 120 cells (6 x 20)                                                                    |
| Module Dimensions    | 1690 × 996 × 35 mm                                                                    |
| Weight               | 18.0 kg                                                                               |
| Glass                | 3.2 mm, High Transmission, AR Coated Heat Strengthened Glass                          |
| Encapsulant Material | EVA                                                                                   |
| Backsheet            | Black                                                                                 |
| Frame                | 35 mm Anodized Aluminium Alloy                                                        |
| J-Box                | IP 68 rated                                                                           |
| Cables               | Photovoltaic Cable 4.0mm², Portrait: N 140mm/P 285mm, Landscape: N 1200 mm /P 1200 mm |
| Connector            | TS4                                                                                   |

### TEMPERATURE RATINGS

|                                             |                   |
|---------------------------------------------|-------------------|
| NMOT (Nominal Module Operating Temperature) | 41°C ( $\pm 3K$ ) |
| Temperature Coefficient of $P_{MAX}$        | -0.36%/K          |
| Temperature Coefficient of $U_{OC}$         | -0.26%/K          |
| Temperature Coefficient of $I_{SC}$         | 0.04%/K           |

### MAXIMUM RATINGS

|                         |                    |
|-------------------------|--------------------|
| Operational Temperature | -40 to +85°C       |
| Maximum System Voltage  | 1000V DC (IEC)     |
| Max Series Fuse Rating  | 20 A               |
| Snow Load               | 5400 Pa (3600 Pa*) |
| Wind Load               | 2400 Pa (1600 Pa*) |

\*design load with safety factor 1.5  
(DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection)

### PACKAGING CONFIGURATION

|                            |            |
|----------------------------|------------|
| Modules per box:           | 30 pieces  |
| Modules per 40' container: | 780 pieces |

### WARRANTY

|                                      |
|--------------------------------------|
| 10 year Product Workmanship Warranty |
| 25 year Performance Warranty         |

(Please refer to product warranty for details)