

# 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 total solution provider for solar energy. With local presence around the globe, Trina Solar is able to provide exceptional service to each customer in each market and deliver our innovative, reliable products with the backing of Trina as a strong, bankable brand. Trina Solar now distributes its PV products to over 100 countries all over the world. We are committed to building strategic, mutually beneficial collaborations with installers, developers, distributors and other partners in driving smart energy together.

## Comprehensive Product And System Certificates

IEC61215/IEC61730/UL1703  
IEC61701 Salt Mist Corrosion  
IEC62716 Ammonia Corrosion  
IEC60068 Blowing Sand  
ISO9001; ISO14001; ISO45001



**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

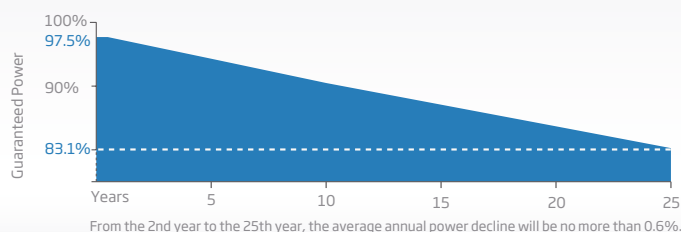


### Certified to withstand challenging environmental conditions

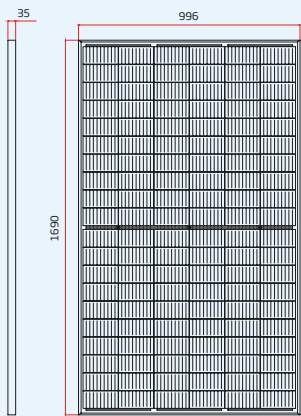
- Salt Mist Corrosion
- Ammonia Corrosion
- Blowing Sand

## PERFORMANCE WARRANTY

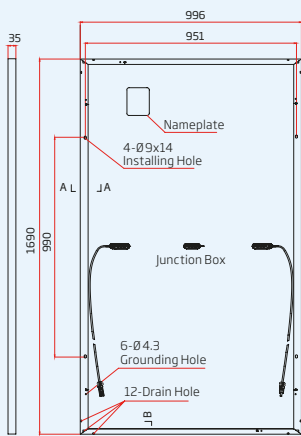
12 Year Product Warranty · 25 Year Power Warranty



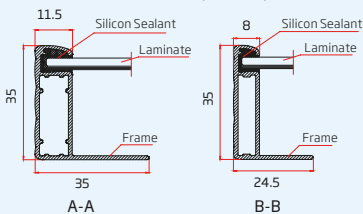
### DIMENSIONS OF PV MODULE TSM-DD06M.05(II) (unit: mm)



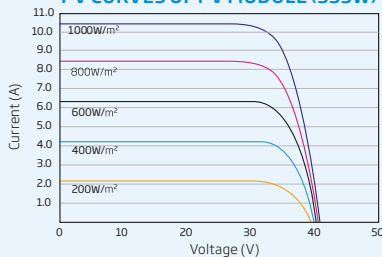
Front View



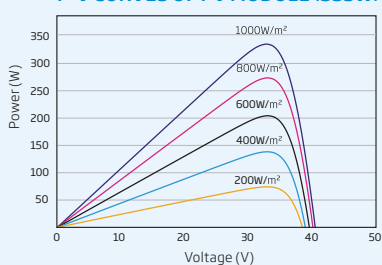
Back View (Portrait)



### 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)	10.00	10.10	10.20	10.30	10.39	10.48
Module Efficiency $\eta_m$ (%)	18.4	18.7	19.0	19.3	19.6	19.9

STC: Irradiance 1000 W/m<sup>2</sup>, 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)	30.9	31.1	31.3	31.4	31.6	31.7
Maximum Power Current- $I_{MPP}$ (A)	7.59	7.66	7.74	7.83	7.91	7.99
Open Circuit Voltage- $U_{OC}$ (V)	37.7	37.9	38.0	38.1	38.3	38.4
Short Circuit Current- $I_{SC}$ (A)	8.05	8.13	8.21	8.29	8.36	8.44

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

### MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	120 cells (6 x 20)
Module Dimensions	1690 x 996 x 35 mm
Weight	18.0 kg
Glass	3.2 mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	EVA
Backsheet	Black-White
Frame	35 mm Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Cable 4.0mm <sup>2</sup> , Portrait: N 280 mm/P 280 mm, 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

12 year Product Workmanship Warranty
25 year Performance Warranty

(Please refer to product warranty for details)