

# THE HoneyBlack<sup>M</sup>

## FRAMED 60 LAYOUT MODULE



**60 LAYOUT**  
MONOCRYSTALLINE MODULE

**315-340W**  
POWER OUTPUT RANGE

**19.9%**  
MAXIMUM EFFICIENCY

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

**PRODUCTS**

TSM-DD06M.05(II)

**POWER RANGE**

315-340W



### High power output

- Combined with MBB technology, maximum 340W



### Outstanding visual appearance

- Designed with aesthetics in mind
- Thinner wires that appear all black at a distance



### Half-cell design brings higher efficiency

- Half-Cell layout (120 monocrystalline) PERC Technology
- Low thermal coefficients for greater energy production at high operating temperature
- Low cell connection power loss due to half-cell layout (120 monocrystalline)



### Highly reliable due to stringent quality control

- Over 30 in-house tests (UV, TC, HF etc)
- Internal test requirement of Trina more stringent than certification authority
- PID resistant
- 100% EL double inspection



### Certified to withstand the most challenging environmental conditions

- 2400 Pa negative load
- 5400 Pa positive load
- \* 2400/2400 is the measured load, and the safety factor is 1.5 times

Founded in 1997, Trina Solar is the world's leading total solutions 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 Products And System Certificates

IEC61215/IEC61730/IEC61701/IEC62716

ISO 9001: Quality Management System

ISO 14001: Environmental Management System

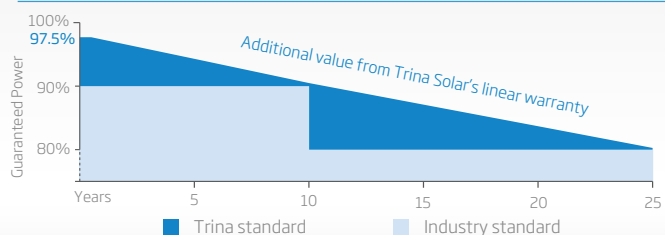
ISO14064: Greenhouse gases Emissions Verification

OHSAS 18001: Occupation Health and Safety Management System

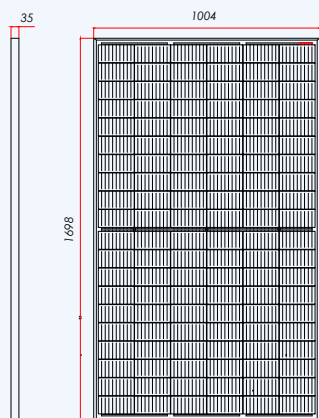


### LINEAR PERFORMANCE WARRANTY

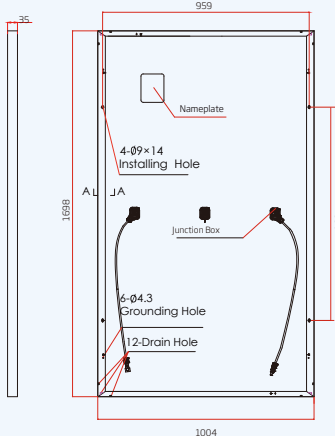
10 Year Product Warranty · 25 Year Linear Power Warranty



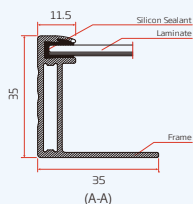
### DIMENSIONS OF PV MODULE(mm)



Front View

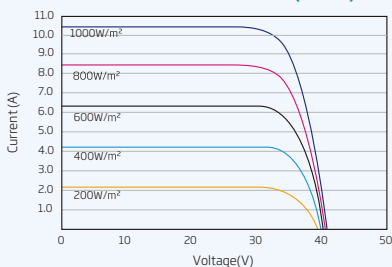


Back View

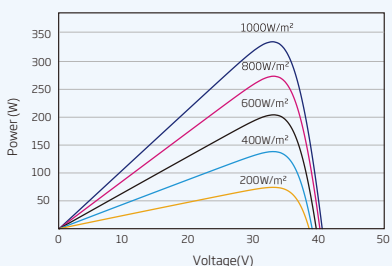


(A-A)

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



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



### ELECTRICAL DATA (STC)

Peak Power Watts-PMAX (Wp)*	315	320	325	330	335	340
Power Output Tolerance-PMAX (W)	0 ~ +5					
Maximum Power Voltage-VMPP (V)	33.2	33.4	33.6	33.8	34.0	34.2
Maximum Power Current-IMPP (A)	9.49	9.58	9.67	9.76	9.85	9.94
Open Circuit Voltage-VOC (V)	40.1	40.3	40.4	40.6	40.7	41.1
Short Circuit Current-ISC (A)	10.12	10.20	10.30	10.39	10.48	10.55
Module Efficiency $\eta$ m (%)	18.5	18.8	19.1	19.4	19.7	19.9

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5.

\*Measuring tolerance:  $\pm 3\%$ .

### ELECTRICAL DATA (NMOT)

Maximum Power-PMAX (Wp)	237	241	245	249	253	256
Maximum Power Voltage-VMPP (V)	30.9	31.1	31.3	31.5	31.7	32.0
Maximum Power Current-IMPP (A)	7.70	7.75	7.84	7.90	7.96	8.02
Open Circuit Voltage-VOC (V)	37.8	38.0	38.1	38.2	38.3	38.7
Short Circuit Current-ISC (A)	8.17	8.23	8.31	8.38	8.45	8.50

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

### MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	120 cells (6 × 20)
Module Dimensions	1698 × 1004 × 35 mm (66.85 × 39.53 × 1.38 inches)
Weight	18.7kg (41.2lb)
Glass	3.2mm (0.13 inches), High Transmission, AR Coated Tempered Glass
Encapsulant Material	EVA
Backsheet	Black
Frame	35 mm (1.38 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm <sup>2</sup> (0.006 inches <sup>2</sup> ), Portrait: N 140mm/P 285mm(5.51/11.22inches) Landscape: N 1200 mm /P 1200 mm (47.24/47.24 inches)
Connector	MC4 / TS4

### TEMPERATURE RATINGS

NMOT (Nominal Module Operating Temperature)	41°C ( $\pm 3^\circ\text{C}$ )
Temperature Coefficient of PMAX	- 0.37%/°C
Temperature Coefficient of VOC	- 0.29%/°C
Temperature Coefficient of ISC	0.05%/°C

(DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection)

### MAXIMUM RATINGS

Operational Temperature	-40~ +85°C
Maximum System Voltage	1000V DC (IEC)
	1000V DC (UL)
Max Series Fuse Rating	20A

### WARRANTY

10 year Product Workmanship Warranty
25 year Linear Power Warranty

(Please refer to product warranty for details)

### PACKAGING CONFIGURATION

Modules per box: 30 pieces
Modules per 40' container: 720 pieces

