

# THE HoneyBlack<sup>M</sup>

## BACKSHEET MONOCRYSTALLINE MODULE



**120 LAYOUT**  
MONOCRYSTALLINE MODULE

**310-335W**  
POWER OUTPUT RANGE

**19.9%**  
MAXIMUM EFFICIENCY

**0~+5W**  
BINNING 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 Products and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716/UL1703  
ISO 9001: Quality Management System  
ISO 14001: Environmental Management System  
ISO14064: Greenhouse Gases Emissions Verification  
ISO45001: Occupation Health and Safety Management System



#### PRODUCTS

TSM-DD06M.05(II)

#### POWER RANGE

310-335W



### Outstanding visual appearance

- Designed with aesthetics in mind
- Excellent cell color control by dedicated cell blackening treatment and machine selection.
- Thinner wires that appear all black at a distance



### High power Mono Perc

- Up to 335W front power and 19.9% module efficiency with half-cut and MBB (Multi Busbar) technology bringing more BOS savings
- Lower resistance of half-cut and good reflection effect of MBB ensure high power



### High reliability

- Ensured PID resistance through cell process and module material control
- Resistant to salt, acid and ammonia
- Mechanical performance: Up to 5400 Pa positive load and 2400 Pa negative load

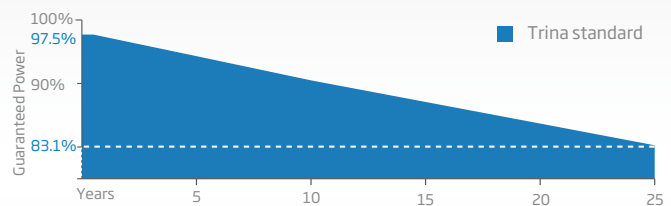


### High energy generation

- Excellent IAM and low light performance validated by 3rd party with cell process and module material optimization
- Lower temp coefficient (-0.36%) and NMOT bring more energy leading to lower LCOE
- Better anti-shading performance and lower operating temperature

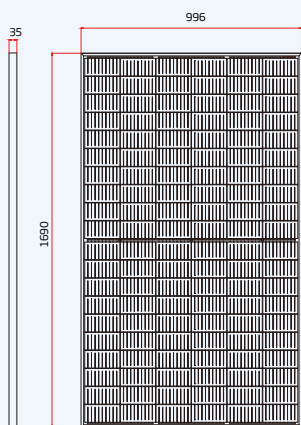
### PERFORMANCE WARRANTY

12 Year Product Warranty · 25 Year Power Warranty

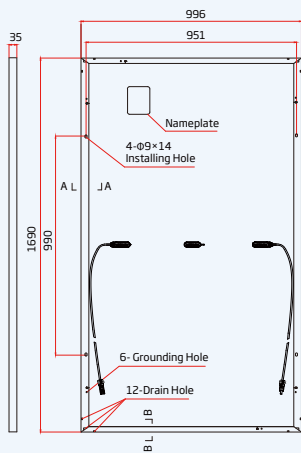


From the 2nd year to the 25th year, the average annual power decline will be no more than 0.6%.

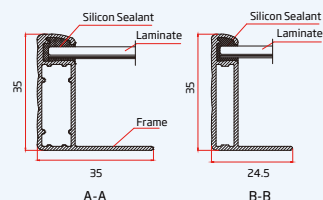
### DIMENSIONS OF PV MODULE(mm)



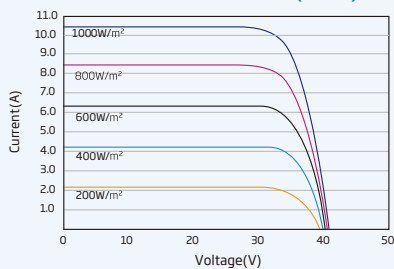
Front View



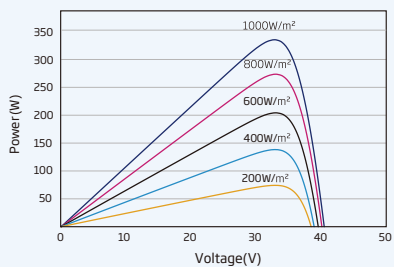
Back View



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



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



### ELECTRICAL DATA (STC)

Peak Power Watts- $P_{MAX}$ (Wp)*	310	315	320	325	330	335
Binning Tolerance- $P_{MAX}$ (W)	0 ~ +5					
Maximum Power Voltage- $V_{MPP}$ (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- $V_{OC}$ (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 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5.

\*Measuring tolerance: ±3%.

### ELECTRICAL DATA (NMOT)

Maximum Power- $P_{MAX}$ (Wp)	235	238	242	246	250	254
Maximum Power Voltage- $V_{MPP}$ (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- $V_{OC}$ (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 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	1690 × 996 × 35 mm (66.54 × 39.21 × 1.38 inches)
Weight	18.0 kg (39.7 lb)
Glass	3.2mm (0.13 inches), High Transmission, AR Coated Tempered Glass
Encapsulant Material	EVA
Backsheet	Black-White
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 280mm/P 280mm(11.02/11.02inches) Landscape: N 1200 mm/P 1200 mm (47.24/47.24 inches)
Connector	PV-KBT4(female),PV-KST4(male) / TS4

### TEMPERATURE RATINGS

NMOT (Nominal Module Operating Temperature)	41°C (±3°C)
Temperature Coefficient of $P_{MAX}$	-0.36%/°C
Temperature Coefficient of $V_{OC}$	-0.26%/°C
Temperature Coefficient of $I_{SC}$	0.04%/°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

- 12 year Product Workmanship Warranty
- 25 year Power Warranty

(Please refer to product warranty for details)

### PACKAGING CONFIGURATION

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