

Vertex S

BACKSHEET MONOCRYSTALLINE MODULE

PRODUCT: TSM-DE09.05

PRODUCT RANGE: 380-395W

395W+

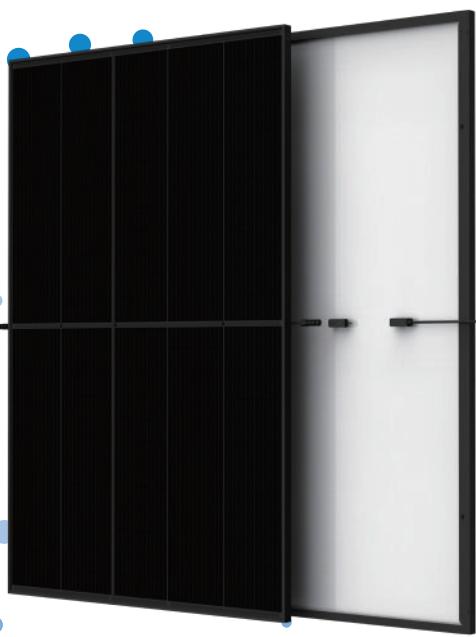
MAXIMUM POWER OUTPUT

0~+5W

POSITIVE POWER TOLERANCE

20.5%

MAXIMUM EFFICIENCY



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



Small in size, big on power

- Small form factor. Generate a huge amount of energy even in limited space.
- Up to 395W, 20.5% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection
- Reduce installation cost with higher power bin and efficiency
- Boost performance in warm weather lower temperature coefficient (-0.34%) and operating temperature



Universal solution for residential and C&I rooftops

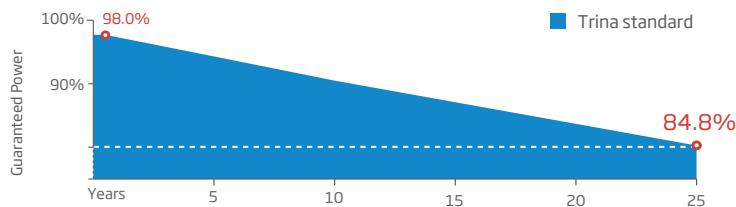
- Designed for compatibility with existing mainstream optimizers, inverters and mounting systems
- Perfect size and low weight. Easy for handling. Economy for transporting
- Diverse installation solutions. Flexible for system deployment



High Reliability

- 15 year product warranty
- 25 year performance warranty with lowest degradation;
- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Mechanical performance up to 6000 Pa positive load and 4000 Pa negative load

Trina Solar's Backsheet Performance Warranty



Comprehensive Products and System Certificates



IEC61215/IEC61730/IEC61701/IEC62716/UL61730

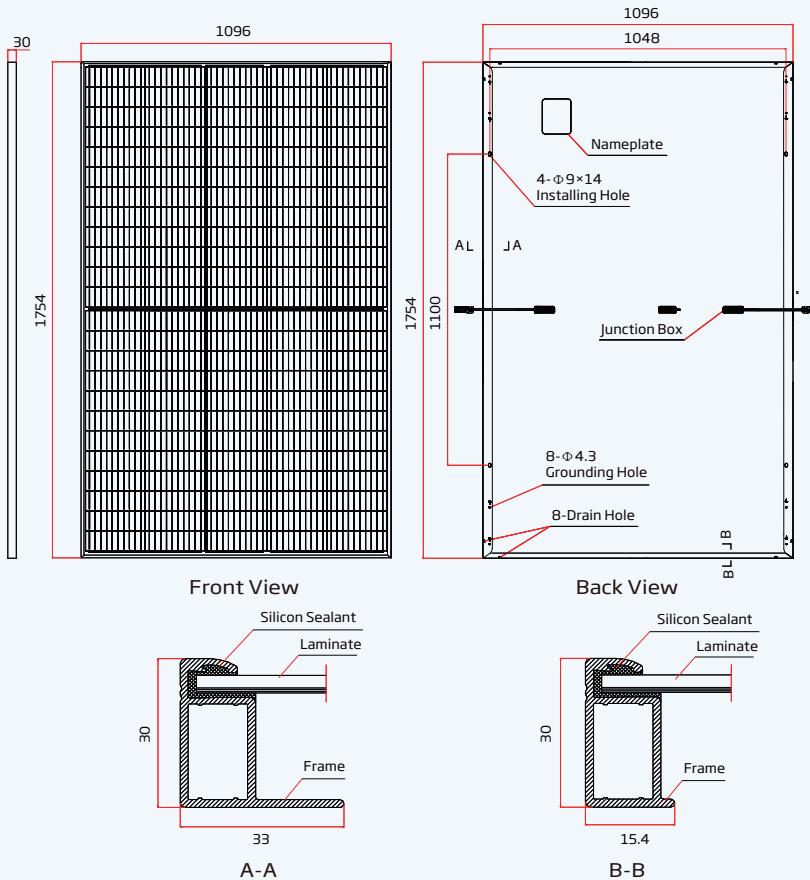
ISO 9001: Quality Management System

ISO 14001: Environmental Management System

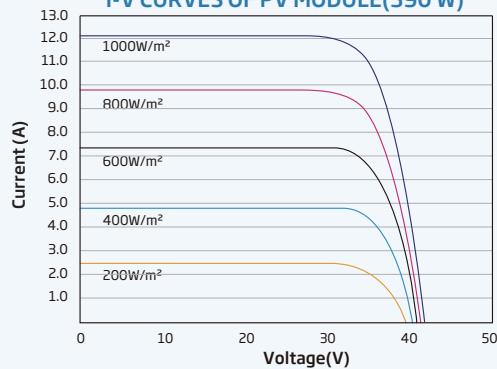
ISO14064: Greenhouse Gases Emissions Verification

ISO45001: Occupational Health and Safety Management System

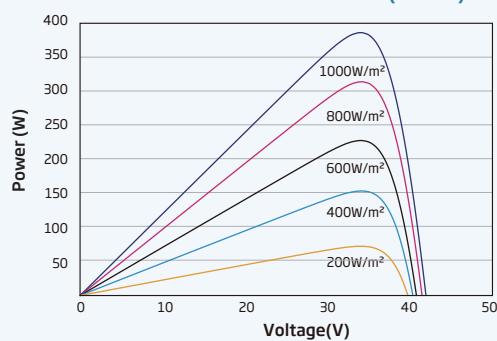
DIMENSIONS OF PV MODULE(mm)



I-V CURVES OF PV MODULE(390 W)



P-V CURVES OF PV MODULE(390W)



ELECTRICAL DATA (STC)

Peak Power Watts-PMAX (Wp)*	380	385	390	395
Power Tolerance-PMAX (W)	0 ~ +5			
Maximum Power Voltage-VMPPT (V)	33.4	33.6	33.8	34.0
Maximum Power Current-IMPP (A)	11.38	11.46	11.54	11.62
Open Circuit Voltage-Voc (V)	40.4	40.6	40.8	41.0
Short Circuit Current-Isoc (A)	12.00	12.07	12.14	12.21
Module Efficiency η m (%)	19.8	20.0	20.3	20.5

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

ELECTRICAL DATA (NOCT)

Maximum Power-PMAX (Wp)	286	290	294	298
Maximum Power Voltage-VMPPT (V)	31.4	31.6	31.8	31.9
Maximum Power Current-IMPP (A)	9.12	9.18	9.24	9.32
Open Circuit Voltage-Voc (V)	38.0	38.2	38.4	38.6
Short Circuit Current-Isoc (A)	9.67	9.73	9.78	9.84

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

MECHANICAL DATA

Solar Cells	Monocrystalline
No. of cells	120 cells
Module Dimensions	1754x1096x30 mm (69.06x43.15x1.18 inches)
Weight	21.0 kg (46.3 lb)
Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	EVA/POE
Backsheet	Black-White
Frame	30mm(1.18 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²), Portrait: 280/280 mm(11.02/11.02 inches), Length can be customized
Connector	MC4 EVO2 / TS4*

*Please refer to regional datasheet for specified connector.

TEMPERATURE RATINGS

NOCT(Nominal Operating Cell Temperature)	43°C ($\pm 2^\circ\text{C}$)	Operational Temperature	-40~+85°C
Temperature Coefficient of PMAX	-0.34%/°C	Maximum System Voltage	1500V DC (IEC)
Temperature Coefficient of Voc	-0.25%/°C	1500V DC (UL)	
Temperature Coefficient of Isc	0.04%/°C	Max Series Fuse Rating	20A

WARRANTY

15 year Product Workmanship Warranty
25 year Power Warranty
2% first year degradation
0.55% Annual Power Attenuation

(Please refer to product warranty for details)

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
1500V DC (UL)	
Max Series Fuse Rating	20A

PACKAGING CONFIGURATION

Modules per box: 36 pieces
Modules per 40' container: 936 pieces