

Vertex S

BACKSHEET MONOCRYSTALLINE MODULE

PRODUCT: TSM-DE09.05
POWER RANGE: 380-395W

395W+

MAXIMUM POWER OUTPUT

0/+5W

POSITIVE POWER TOLERANCE

20.5%

MAXIMUM EFFICIENCY



Outstanding Visual Appearance

- Designed with aesthetics in mind
- Ultra-thin, virtually invisible busbars
- Excellent cell color control by machine selection



Small in size, big on power

- Generates up to 395 W, 20.5 % module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping, lower series resistance, improved current collection and enhanced reliability
- Excellent low light performance (IAM) with cell process and module material optimization



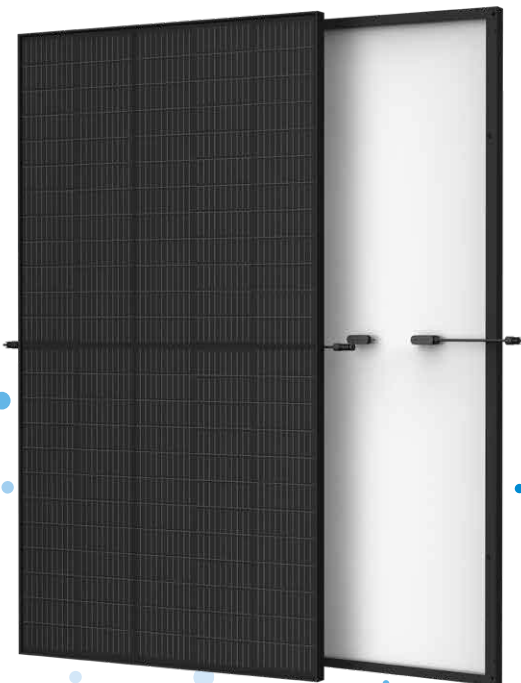
Universal solution for residential and C&I rooftops

- Designed for compatibility with existing mainstream inverters, optimizers and mounting systems
- Perfect size and low weight for easy handling. Optimized transportation cost
- Reduces installation cost with higher power bin and efficiency
- Flexible installation solutions for system deployment

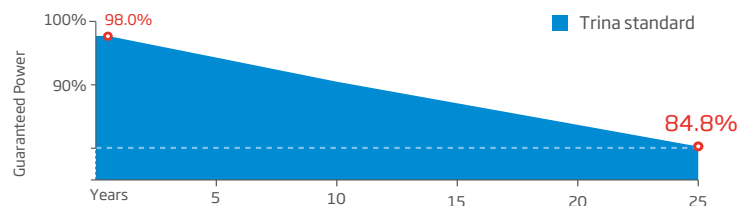


High Reliability

- 15 year product warranty
- 25 year linear performance warranty with low degradation
- Mechanical performance up to 6,000 Pa snow load and 4,000 Pa wind load



Trina Solar's Backsheet Performance Warranty

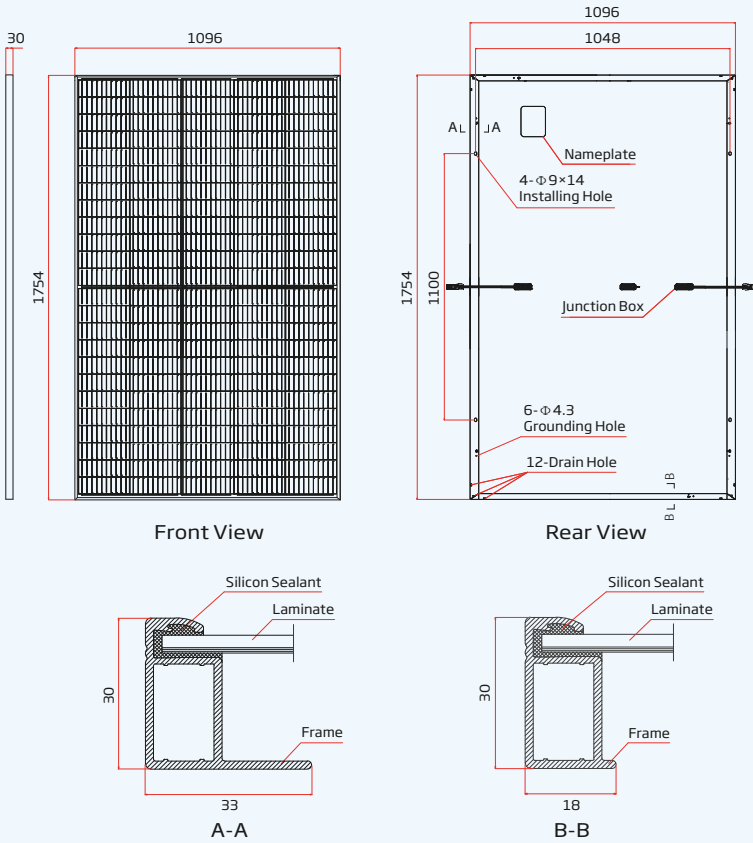


Comprehensive Product and System Certificates

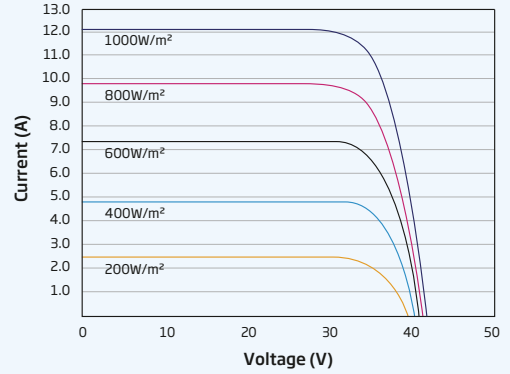


IEC61215/IEC61730/IEC61701/IEC62716
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupational Health and Safety Management System

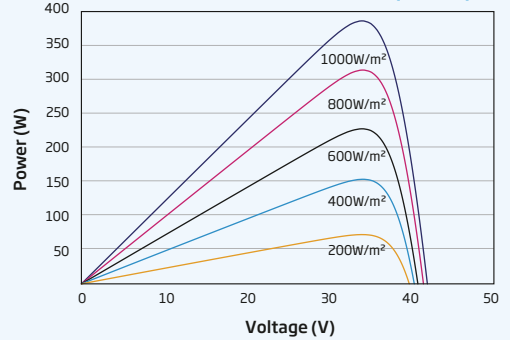
DIMENSIONS OF PV MODULE (mm)



I-V CURVES OF PV MODULE (390 W)



P-V CURVES OF PV MODULE (390 W)



ELECTRICAL DATA (STC)

| | TSM-380 DE09.05 | TSM-385 DE09.05 | TSM-390 DE09.05 | TSM-395 DE09.05 |
|--------------------------------------|--------------------|--------------------|--------------------|--------------------|
| Peak Power Watts- P_{MAX} (Wp)* | 380 | 385 | 390 | 395 |
| Power Tolerance- P_{MAX} (W) | 0/+5 | 0/+5 | 0/+5 | 0/+5 |
| Maximum Power Voltage- V_{MPP} (V) | 33.4 | 33.6 | 33.8 | 34.0 |
| Maximum Power Current- I_{MPP} (A) | 11.38 | 11.46 | 11.54 | 11.62 |
| Open Circuit Voltage- V_{oc} (V) | 40.4 | 40.6 | 40.8 | 41.0 |
| Short Circuit Current- I_{sc} (A) | 12.00 | 12.07 | 12.14 | 12.21 |
| Module Efficiency η m (%) | 19.8 | 20.0 | 20.3 | 20.5 |

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

MECHANICAL DATA

| | |
|----------------------|--|
| Solar Cells | Monocrystalline |
| No. of cells | 120 cells |
| Module Dimensions | 1754×1096×30 mm |
| Weight | 21.0 kg |
| Glass | 3.2 mm, High Transmission, AR Coated Heat Strengthened Glass |
| Encapsulant material | EVA/POE |
| Backsheet | Black-White |
| Frame | 30 mm Anodized Aluminium Alloy |
| J-Box | IP 68 rated |
| Cables | Photovoltaic Technology Cable 4.0 mm ² Portrait: 280/280 mm Landscape: 1100/1100 mm |
| Connector | TS4/MC4 EV02* |

*Special order only

ELECTRICAL DATA (NOCT)

| | TSM-380 DE09.05 | TSM-385 DE09.05 | TSM-390 DE09.05 | TSM-395 DE09.05 |
|--------------------------------------|--------------------|--------------------|--------------------|--------------------|
| Maximum Power- P_{MAX} (Wp) | 286 | 290 | 294 | 298 |
| Maximum Power Voltage- V_{MPP} (V) | 31.4 | 31.6 | 31.8 | 31.9 |
| Maximum Power Current- I_{MPP} (A) | 9.12 | 9.18 | 9.24 | 9.32 |
| Open Circuit Voltage- V_{oc} (V) | 38.0 | 38.2 | 38.4 | 38.6 |
| Short Circuit Current- I_{sc} (A) | 9.67 | 9.73 | 9.78 | 9.84 |

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

TEMPERATURE RATINGS

| | |
|---|-------------|
| NOCT (Nominal Operating Cell Temperature) | 43°C (±2 K) |
| Temperature Coefficient of P_{MAX} | -0.34%/K |
| Temperature Coefficient of V_{OC} | -0.25%/K |
| Temperature Coefficient of I_{SC} | 0.04%/K |

MAXIMUM RATINGS

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

WARRANTY

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

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

| | |
|---------------------------|------------|
| Modules per box | 36 pieces |
| Modules per 40' container | 936 pieces |