THE Vertex

BACKSHEET MONOCRYSTALLINE MODULE

PRODUCTS TSM-DE18M(II) | **POWER RANGE** 480-505W

500W+
MAXIMUM POWER OUTPUT

21.1%
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 Products 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

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High customer value

- Lower LCOE (Levelized Cost Of Energy), reduced BOS (Balance Of System) cost, shorter payback time
- Lower guaranteed first year and annual degradation
- Designed for compatibility with existing mainstream system components
- Higher return on Investment

High power up to 505W

- Large area cells based on 210mm silicon wafers and 1/3-cut cell technology
- Up to 21.1% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection

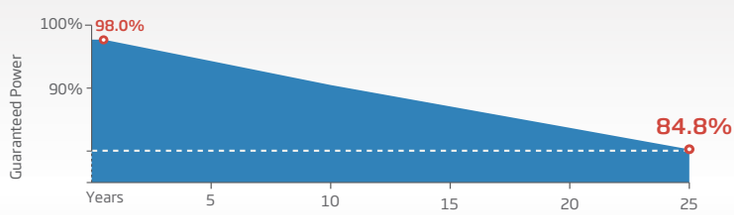
High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load

High energy yield

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
- The unique design provides optimized energy production under inter-row shading conditions
- Lower temperature coefficient (-0.36%) and operating temperature

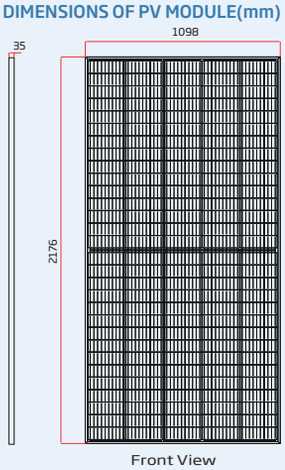
Trina Solar's VERTEX Backsheet Performance Warranty



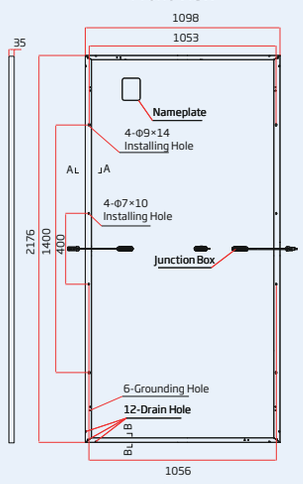
Vertex

BACKSHEET MONOCRYSTALLINE MODULE

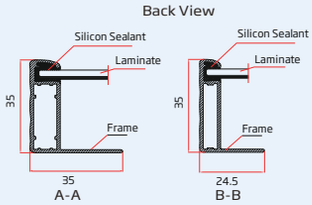
DIMENSIONS OF PV MODULE(mm)



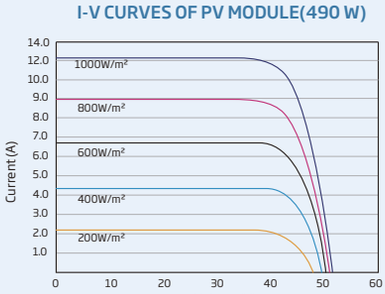
Front View



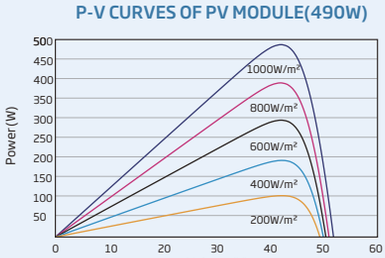
Back View



I-V CURVES OF PV MODULE(490 W)



P-V CURVES OF PV MODULE(490W)



ELECTRICAL DATA (STC)

Peak Power Watts-P_{MAX} (Wp)*	480	485	490	495	500	505
Power Tolerance-P_{MAX} (W)	0 ~ +5					
Maximum Power Voltage-V_{MPP} (V)	42.0	42.2	42.4	42.6	42.8	43.0
Maximum Power Current-I_{MPP} (A)	11.42	11.49	11.56	11.63	11.69	11.75
Open Circuit Voltage-V_{OC} (V)	50.8	51.1	51.3	51.5	51.7	51.9
Short Circuit Current-I_{SC} (A)	11.99	12.07	12.14	12.21	12.28	12.35
Module Efficiency η_m (%)	20.1	20.3	20.5	20.7	20.9	21.1

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

ELECTRICAL DATA (NMOT)

Maximum Power-P_{MAX} (Wp)	363	367	371	375	379	382
Maximum Power Voltage-V_{MPP} (V)	39.6	39.8	40.0	40.2	40.4	40.6
Maximum Power Current-I_{MPP} (A)	9.15	9.20	9.26	9.32	9.37	9.43
Open Circuit Voltage-V_{OC} (V)	48.0	48.2	48.4	48.6	48.8	49.0
Short Circuit Current-I_{SC} (A)	9.65	9.72	9.77	9.83	9.89	9.94

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

MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	150 cells
Module Dimensions	2176 ×1098× 35 mm (85.67 × 43.23 × 1.38 inches)
Weight	26.3 kg (58.0 lb)
Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	EVA
Backsheet	White
Frame	35 mm (1.38 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²), Portrait: N 280mm/P 280mm(11.02/11.02inches) Landscape: N 1400 mm /P 1400 mm (55.12/55.12 inches)
Connector	MC4 EVO2 / TS4*

*Please refer to regional datasheet for specified connector.

TEMPERATURE RATINGS

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

MAXIMUMRATINGS

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

(Do not connect Fuse in Combiner Box with two or more strings in parallel connection)

WARRANTY

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

(Please refer to product warranty for details)

PACKAGING CONFIGUREATION

- Modules per box: 30 pieces
- Modules per 40' container: 600 pieces

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CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

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