Vertex

T1-SLP-110-545-M-TRINA

BACKSHEET MONOCRYSTALLINE MODULE

PRODUCT: TSM-DE19

PRODUCT RANGE: 540-560W

560W	0~+5W	21.4%
MAXIMUM POWER OUTPUT	POSITIVE POWER TOLERANCE	MAXIMUM EFFICIENCY



High customer value

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

High power up to 560W

- Up to 21.4% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection

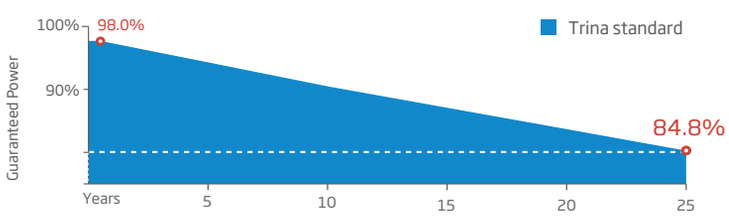
High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- 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 (-0.34%) and operating temperature

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

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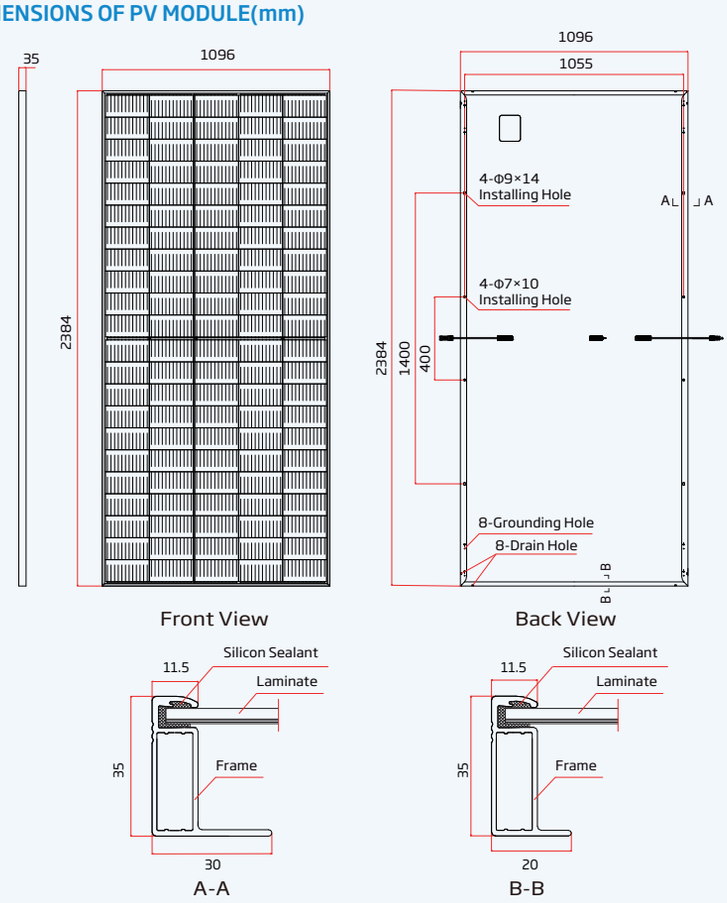
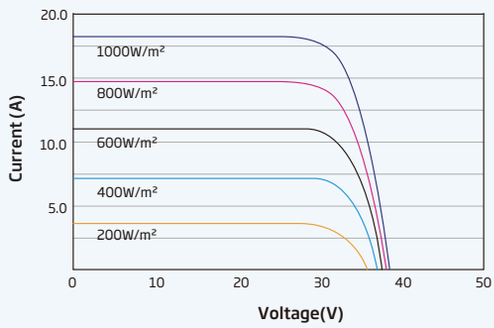
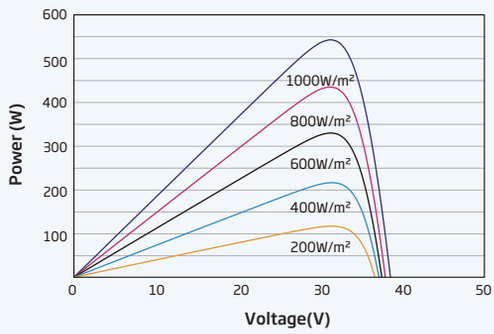
DIMENSIONS OF PV MODULE(mm)



I-V CURVES OF PV MODULE(545 W)



P-V CURVES OF PV MODULE(545W)



ELECTRICAL DATA (STC)

Peak Power Watts-PMAX (Wp)*	540	545	550	555	560
Power Tolerance-PMAX (W)			0 ~ +5		
Maximum Power Voltage-VMPP (V)	31.2	31.4	31.6	31.8	32.0
Maximum Power Current-IMPP (A)	17.33	17.37	17.40	17.45	17.49
Open Circuit Voltage-VOC (V)	37.5	37.7	37.9	38.1	38.3
Short Circuit Current-ISC (A)	18.41	18.47	18.52	18.56	18.60
Module Efficiency η m (%)	20.7	20.9	21.0	21.2	21.4

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

ELECTRICAL DATA (NOCT)

Maximum Power-PMAX (Wp)	409	413	417	420	424
Maximum Power Voltage-VMPP (V)	29.0	29.2	29.3	29.5	29.7
Maximum Power Current-IMPP (A)	14.10	14.15	14.19	14.23	14.26
Open Circuit Voltage-VOC (V)	35.3	35.5	35.7	35.9	36.1
Short Circuit Current-ISC (A)	14.84	14.88	14.92	14.96	14.99

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

MECHANICAL DATA

Solar Cells	Monocrystalline
No. of cells	110 cells
Module Dimensions	2384×1096×35 mm (93.86×43.15×1.38 inches)
Weight	28.6 kg (63.1 lb)
Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	EVA/POE
Backsheet	White
Frame	35mm(1.38 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²), Portrait: 350/280 mm(13.78/11.02 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 (±2°C)
Temperature Coefficient of PMAX	- 0.34%/°C
Temperature Coefficient of VOC	- 0.25%/°C
Temperature Coefficient of ISC	0.04%/°C

MAXIMUMRATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)
Max Series Fuse Rating	30A

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: 31 pieces

Modules per 40' container: 620 pieces

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