



BACKSHEET MONOCRYSTALLINE MODULE

PRODUCT: TSM-DE19

PRODUCT RANGE: 530-555W

555W+

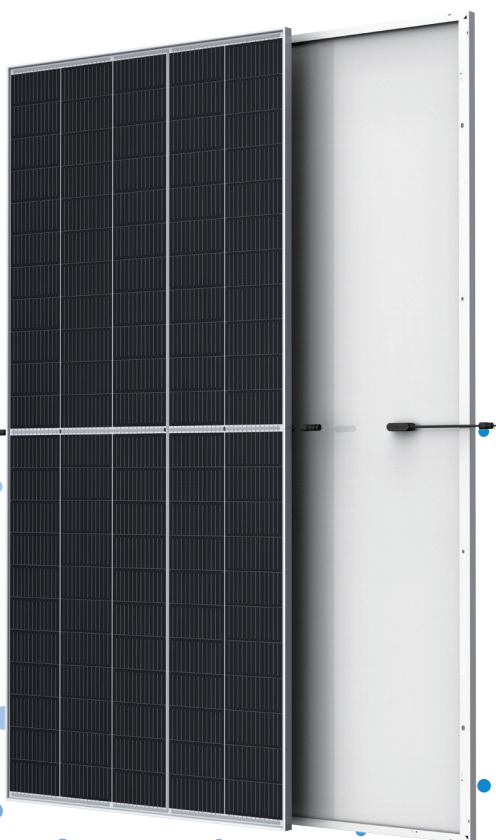
MAXIMUM POWER OUTPUT

0~+5W

POSITIVE POWER TOLERANCE

21.2%

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 555W

- Up to 21.2% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection



High reliability

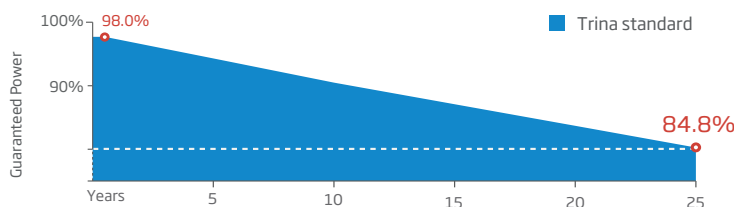
- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load



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



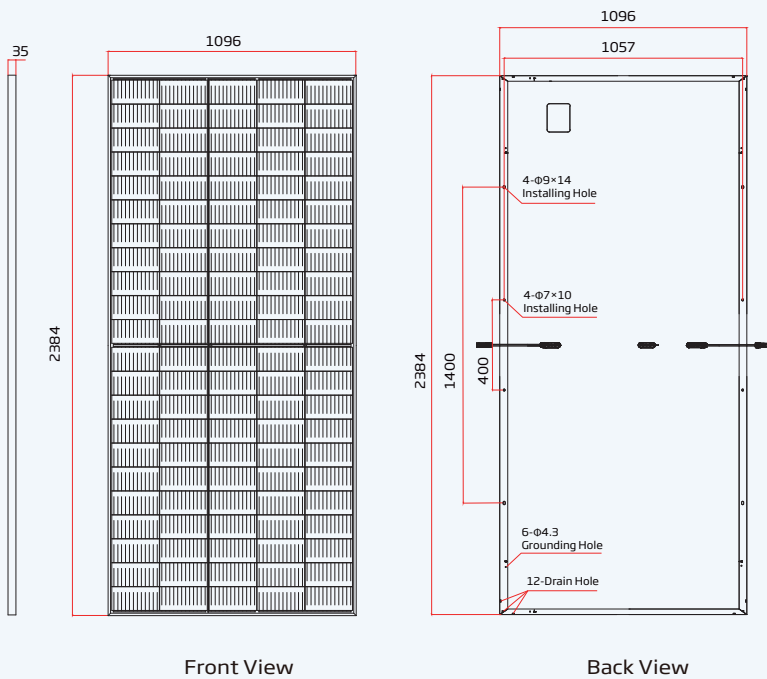
Comprehensive Products and System Certificates



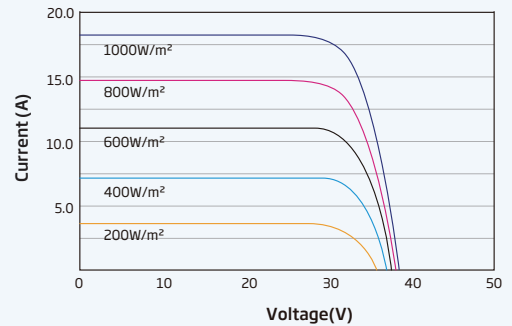
IEC61215/IEC61730/IEC61701/IEC62716/UL61730
 ISO 9001: Quality Management System
 ISO 14001: Environmental Management System
 ISO14064: Greenhouse Gases Emissions Verification
 ISO45001: Occupational Health and Safety Management System



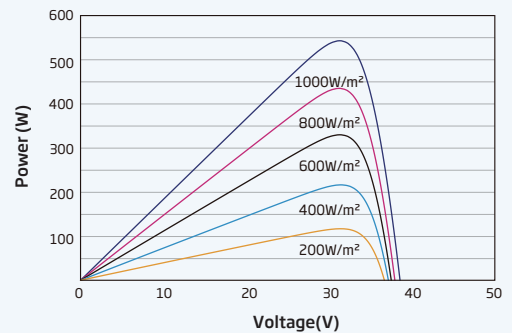
DIMENSIONS OF PV MODULE(mm)



I-V CURVES OF PV MODULE(545 W)



P-V CURVES OF PV MODULE(545W)



ELECTRICAL DATA (STC)

Parameter	530	535	540	545	550	555
Peak Power Watts- P_{MAX} (Wp)*						
Power Tolerance- P_{MAX} (W)	0 ~ +5					
Maximum Power Voltage- V_{MPP} (V)	30.8	31.0	31.2	31.4	31.6	31.8
Maximum Power Current- I_{MPP} (A)	17.21	17.28	17.33	17.37	17.40	17.45
Open Circuit Voltage- V_{OC} (V)	37.1	37.3	37.5	37.7	37.9	38.1
Short Circuit Current- I_{SC} (A)	18.31	18.36	18.41	18.47	18.52	18.56
Module Efficiency η_m (%)	20.3	20.5	20.7	20.9	21.0	21.2

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

ELECTRICAL DATA (NOCT)

Maximum Power- P_{MAX} (Wp)	401	405	409	413	417	420
Maximum Power Voltage- V_{MPP} (V)	28.6	28.8	29.0	29.2	29.3	29.5
Maximum Power Current- I_{MPP} (A)	14.01	14.06	14.10	14.15	14.19	14.23
Open Circuit Voltage- V_{OC} (V)	35.0	35.1	35.3	35.5	35.7	35.9
Short Circuit Current- I_{SC} (A)	14.76	14.80	14.84	14.88	14.92	14.96

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 \times 1096 \times 35 mm (93.86 \times 43.15 \times 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 4.0mm ² (0.006 inches ²), Portrait: 280/280 mm(11.02/11.02 inches) Landscape: 1400/1400 mm(55.12/55.12 inches)
Connector	MC4 EV02 / TS4*

*Please refer to regional datasheet for specified connector.

TEMPERATURE RATINGS

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

MAXIMUM RATINGS

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 CONFIGURATION

Modules per box: 31 pieces
Modules per 40' container: 620 pieces