

Vertex N

N-type TOPCon bifacial backsheet
Monocrystalline module

PRODUCT: TSM-NE19RC

POWER RANGE: 595-620W

620W

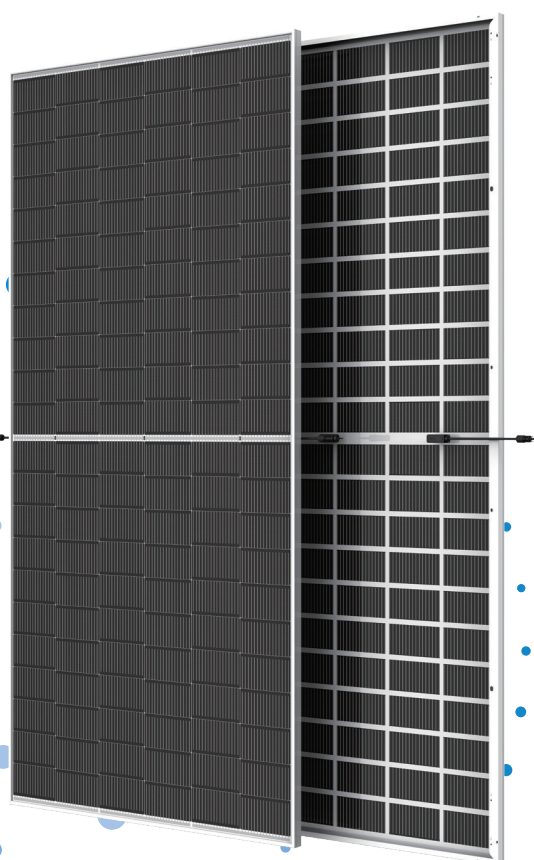
MAXIMUM POWER OUTPUT

0~+5W

POSITIVE POWER TOLERANCE

23.0%

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 620W

- Up to 23.0% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection



High reliability

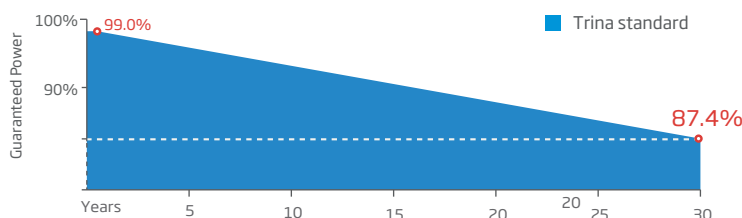
- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load



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 (-0.29%/°C)

Trina Solar's Bifacial Backsheet Performance Warranty



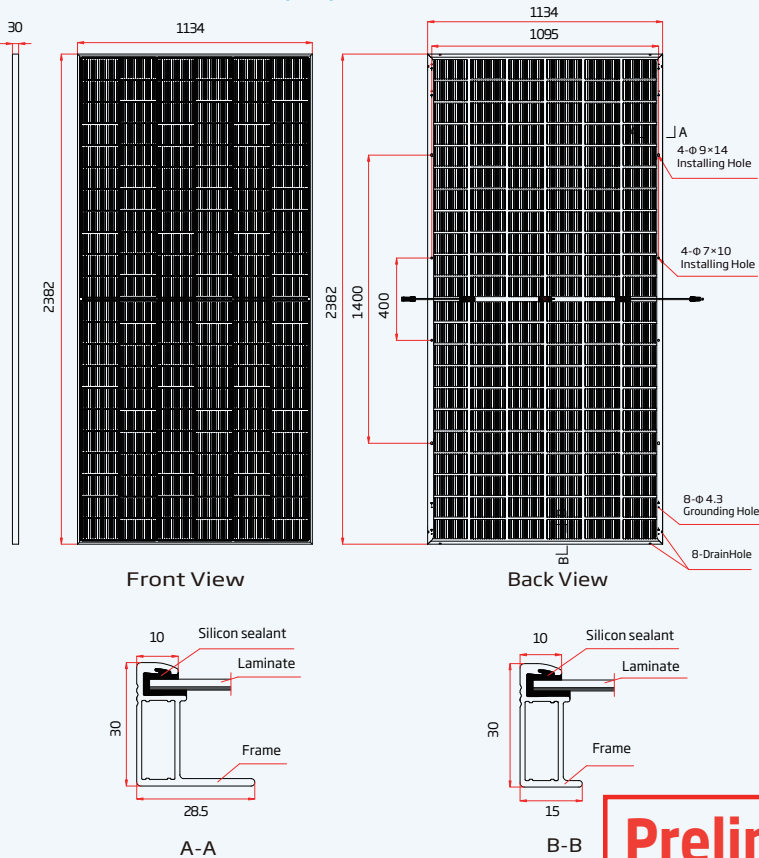
Comprehensive Products and System Certificates



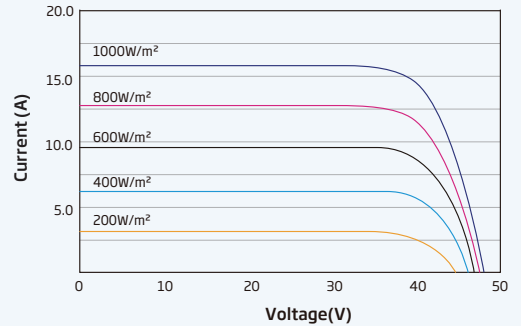
IEC61215/IEC61730/UL61730
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupational Health and Safety Management System

Trina solar

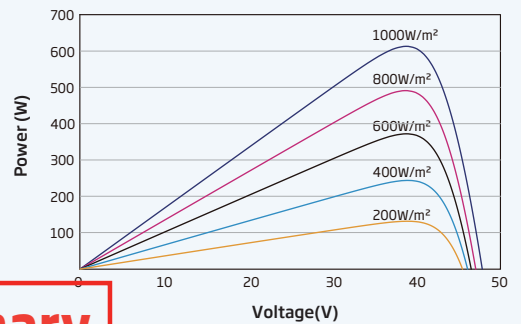
DIMENSIONS OF PV MODULE(mm)



I-V CURVES OF PV MODULE(605W)



P-V CURVES OF PV MODULE(605 W)



Preliminary

MECHANICAL DATA

Solar Cells	N-type TOPCon Monocrystalline
No. of cells	132cells
Module Dimensions	2382×1134×30mm (85.51×51.30×1.30 inches)
Weight	27.9 kg (61.5 lb)
Front Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	POE/EVA
Back Sheet	Transparent white mesh Backsheet

Frame	30mm(1.18 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm ² (0.006 inches ²) Portrait: 350/280 mm(13.78/11.02 inches) Length can be customized
Connector	MC4 EVO2 / TS4 Plus / TS4*

*Please refer to regional datasheet for specified connector.

ELECTRICAL DATA (STC & NOCT)

Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Peak Power Watts-P _{MAX} (Wp)*	595	454	600	459	605	462	610	466	615	470	620	474
Power Tolerance-P _{MAX} (W)	0 ~ +5											
Maximum Power Voltage-V _{MPP} (V)	40.0	37.6	40.3	37.9	40.5	38.1	40.8	38.3	41.1	38.6	41.4	38.8
Maximum Power Current-I _{MPP} (A)	14.89	12.07	14.91	12.11	14.94	12.13	14.96	12.16	14.98	12.19	14.99	12.20
Open Circuit Voltage-V _{OC} (V)	48.1	45.7	48.4	46.0	48.7	46.2	49.0	46.5	49.3	46.8	49.6	47.1
Short Circuit Current-I _{SC} (A)	15.76	12.69	15.80	12.73	15.83	12.75	15.86	12.78	15.89	12.80	15.91	12.82
Module Efficiency η_m (%)	22.0		22.2		22.4		22.6		22.8		23.0	

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5. NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s. *Measuring tolerance: $\pm$ 3%.

Electrical characteristics with different power bin (reference to 5% & 10% backside power gain)

Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Total Equivalent power -P _{MAX} (Wp)	625	655	630	660	635	666	641	671	646	677	651	682
Maximum Power Voltage-V _{MPP} (V)	40.0	40.0	40.3	40.3	40.5	40.5	40.8	40.8	41.1	41.1	41.4	41.4
Maximum Power Current-I _{MPP} (A)	15.63	16.38	15.66	16.40	15.69	16.43	15.71	16.46	15.73	16.48	15.74	16.49
Open Circuit Voltage-V _{OC} (V)	48.1	48.1	48.4	48.4	48.7	48.7	49.0	49.0	49.3	49.3	49.6	49.6
Short Circuit Current-I _{SC} (A)	16.55	17.34	16.59	17.38	16.62	17.41	16.65	17.45	16.68	17.48	16.71	17.50

Power Bifaciality:80 $\pm$ 5%.

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43°C ($\pm$ 2°C)
Temperature Coefficient of P _{MAX}	- 0.29%/°C
Temperature Coefficient of V _{OC}	- 0.24%/°C
Temperature Coefficient of I _{SC}	0.04%/°C

MAXIMUM RATINGS

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

WARRANTY

12 year Product Workmanship Warranty
30 year Power Warranty
1% first year degradation
0.40% Annual Power Attenuation

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 36 pieces
Modules per 40' container: 720 pieces