

Vertex N

N-type TOPCon bifacial dual glass
Monocrystalline module

PRODUCT: TSM-NEG19RC.20

POWER RANGE: 550-575W

575W

MAXIMUM POWER OUTPUT

0~+5W

POSITIVE POWER TOLERANCE

21.3%

MAXIMUM EFFICIENCY



High customer value

- Lower LCOE , reduced BOS cost, better ROI
- Lowest guaranteed first year and annual degradation
- Optimized compatibility with existing mainstream system components



High power up to 575W

- Up to 21.3% module efficiency
- High density interconnection provides improved power density
- MBB technology improves lighttrapping effect and currentcollection, while lowering series resistance



High reliability

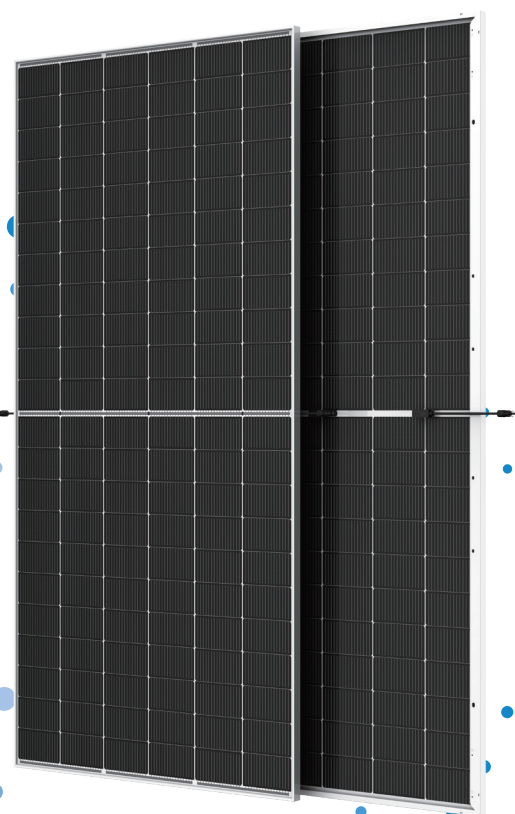
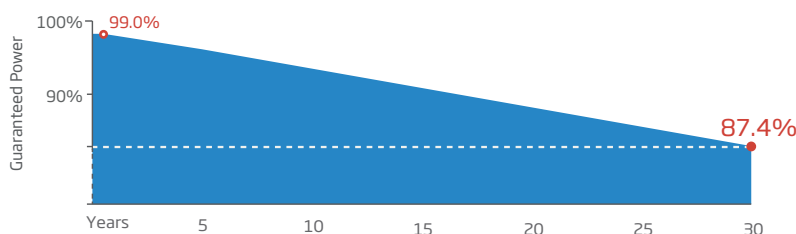
- Minimized micro-cracks with innovative non-destructive cutting technology minimizes micro-cracking
- Ensured PID resistance through improved cell process and module material control
- Resistant to harsh environments
- Mechanical performance up to +5400/-2400 Pa



High energy yield

- Excellent IAM and low irradiation performance, validated by 3rd party certifications
- The unique design provides optimized energy production under inter-row shading conditions
- Lower temperature coefficient (-0.30%) and operating temperature
- Up to 30% additional power gain from back side

Trina Solar's Vertex Bifacial Dual Glass Performance Warranty



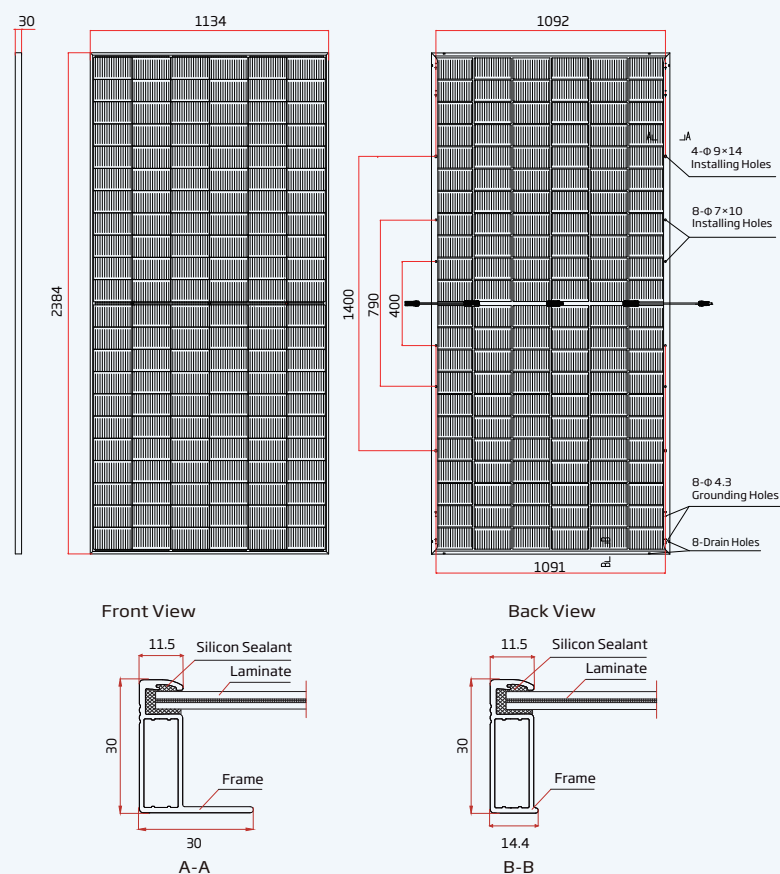
Comprehensive Products and System Certificates



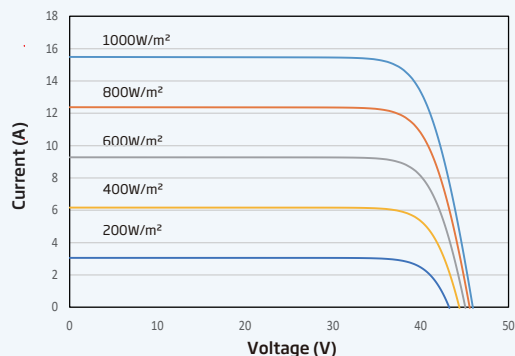
IEC61215/IEC61730/IEC61701/IEC62716/UL61730
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupational Health and Safety Management System

Trinasolar

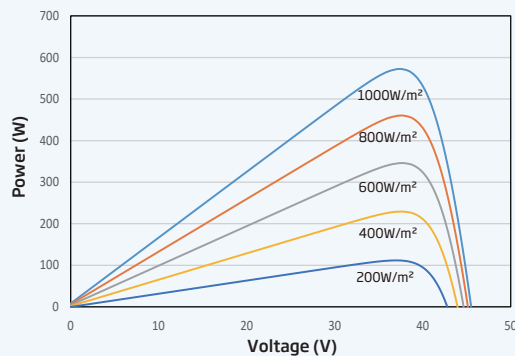
DIMENSIONS OF PV MODULE (mm)



I-V CURVES OF PV MODULE (575W)



P-V CURVES OF PV MODULE (575W)



ELECTRICAL DATA (STC)

Peak Power Watts-P _{MAX} (Wp)*	550	555	560	565	570	575
Power Tolerance-P _{MAX} (W)	0 ~ +5					
Maximum Power Voltage-V _{MPP} (V)	37.6	37.8	38.1	38.4	38.6	38.9
Maximum Power Current-I _{MPP} (A)	14.65	14.68	14.70	14.72	14.75	14.78
Open Circuit Voltage-V _{OC} (V)	45.4	45.7	46.0	46.3	46.6	46.9
Short Circuit Current-I _{SC} (A)	15.53	15.55	15.57	15.59	15.61	15.63
Module Efficiency η_m (%)	20.3	20.5	20.7	20.9	21.1	21.3

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

Electrical characteristics with different power bin (reference to 10% Irradiance ratio)

Total Equivalent power -P _{MAX} (Wp)	594	599	605	610	616	621
Maximum Power Voltage-V _{MPP} (V)	37.6	37.8	38.1	38.4	38.6	38.9
Maximum Power Current-I _{MPP} (A)	15.82	15.85	15.88	15.90	15.93	15.96
Open Circuit Voltage-V _{OC} (V)	45.4	45.7	46.0	46.3	46.6	46.9
Short Circuit Current-I _{SC} (A)	16.77	16.79	16.82	16.84	16.86	16.88
Irradiance ratio (rear/front)	10%					

Power Bifaciality: 80±5%.

ELECTRICAL DATA (NOCT)

Maximum Power-P _{MAX} (Wp)	419	423	427	431	434	438
Maximum Power Voltage-V _{MPP} (V)	35.3	35.5	35.8	36.1	36.3	36.5
Maximum Power Current-I _{MPP} (A)	11.88	11.91	11.93	11.95	11.97	11.99
Open Circuit Voltage-V _{OC} (V)	43.1	43.3	43.6	43.9	44.2	44.5
Short Circuit Current-I _{SC} (A)	12.51	12.53	12.55	12.56	12.58	12.59

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

MECHANICAL DATA

Solar Cells	Monocrystalline 210Rmm N-type
No. of cells	132 cells
Module Dimensions	2384×1134×30 mm (93.86×44.65×1.18 in)
Weight	33.7 kg (74.3 lb)
Front Glass	2.0 mm (0.08 in), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	POE/EVA
Back Glass	2.0 mm (0.08 in), Heat Strengthened Glass (White Grid Glass)
Frame	30 mm (1.18 in) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0 mm ² (0.006 in ²) Portrait: 350/280 mm (13.78/11.02 in) Landscape: 1400/1400 mm (55.1/55.1 in) *
Connector	MC4 EV02 / TS4 PLUS / TS4 **

*Length can be customized

**Customer to choose connector type

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of P _{MAX}	-0.30%/°C
Temperature Coefficient of V _{OC}	-0.24%/°C
Temperature Coefficient of I _{SC}	0.04%/°C

Due to different testing methods, the actual performances might differ from the declared specifications.

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)

MAXIMUM RATINGS

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

*This is for customers engineering to decide

PACKAGING CONFIGURATION

Modules per box: 36 pieces
Modules per 40' container: 504 pieces
Pallets per 40' container: 14