

Strong
Wind Protection

Severe
Hail Protection

Heavy
Snow Protection

Superior
Fire Protection

Preliminary

Vertex N

— TOPCon —

Shield

TSM-NED19RC.20
595-620W

Key Features



Passed IEC 55mm width hail certificate at a speed of 33.9m/s
Reduction of over 50% potential cost caused by hail damage*



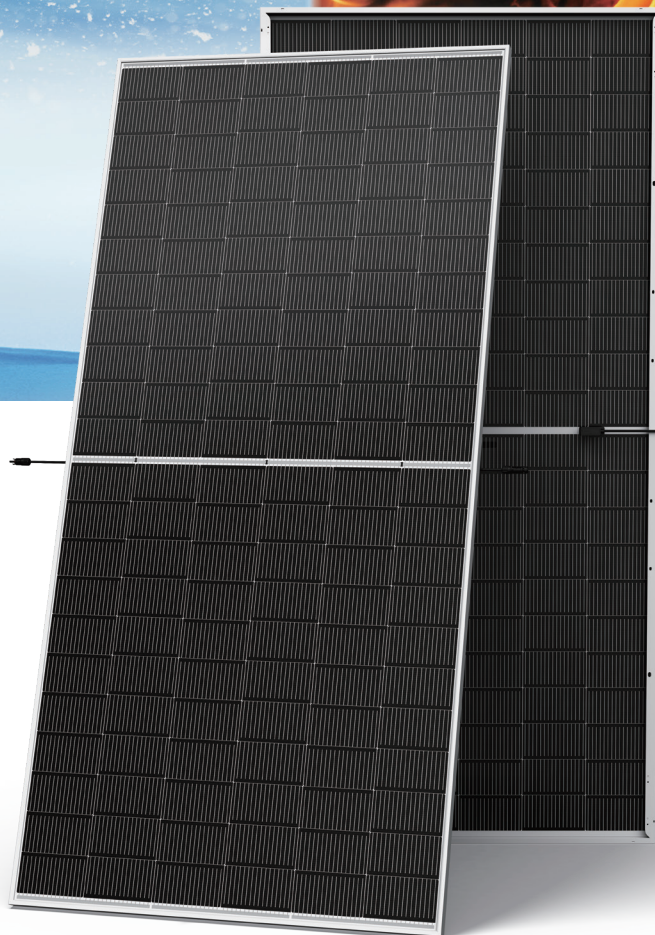
Mechanical load with fixed mounting installation: +7000/-4000Pa
Mechanical load with tracking installation: +3600/-3000Pa



Passed IEC 61730-2 Class A+A fire rating certification
Passed EN13501-1 Class B certification (FIGRA 19W/s)
Passed UL61730 Type 30 fire resistance certification



Uneven snow load capacity up to 6600Pa



*Please get in contact with Trinasolar technical team for more details on the VDE PRE/PML/AAL report.



Better bankability, more profit

- Highly reliable products reduce insurance costs and reduce payout risk
- High power of up to 620W and 23.0% module efficiency, on 210 innovation platform
- Low voltage design with higher string power, effectively reducing BOS and LCOE
- High Bifaciality & excellent low-irradiation performance, improved electricity generation per Watt



High reliability, resist the extremes

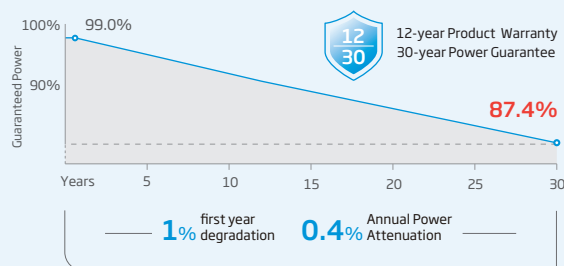
- Passed salt, ammonia, dust, PID, LID, LeTID certificate



Diversified scenarios adaption

- Support diversified installation methods, suitable for various application scenarios
- Typical module format design, better compatibility with trackers
- Excellent compatibility with existing mainstream inverters

Performance Warranty



* Please refer to product warranty for details

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



ELECTRICAL DATA (STC & NOCT)

Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Peak Power Watts- $P_{MAX}(W_p)^*$	595	454	600	458	605	462	610	465	615	469	620	473
Power Selection (W)**	0 ~ +5											
Maximum Power Voltage- V_{MPP} (V)	39.28	37.10	39.43	37.30	39.57	37.40	39.79	37.60	39.97	37.80	40.24	37.90
Maximum Power Current- I_{MPP} (A)	15.15	12.24	15.22	12.29	15.29	12.33	15.33	12.38	15.39	12.43	15.41	12.47
Open Circuit Voltage- V_{oc} (V)	47.49	45.10	47.69	45.30	47.89	45.50	48.09	45.70	48.29	45.90	48.50	46.10
Short Circuit Current- I_{sc} (A)	15.96	12.86	16.02	12.91	16.08	12.96	16.14	13.00	16.20	13.05	16.26	13.10
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: ±3%. **Power selection up to: +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%
Peak Power Watts- $P_{MAX}(W_p)$	625	655	630	660	635	666	641	671	646	677	651	682
Maximum Power Voltage- V_{MPP} (V)	39.28	39.28	39.43	39.43	39.57	39.57	39.79	39.79	39.97	39.97	40.24	40.24
Maximum Power Current- I_{MPP} (A)	15.91	16.67	15.98	16.74	16.05	16.82	16.10	16.86	16.16	16.93	16.18	16.95
Open Circuit Voltage- V_{oc} (V)	47.49	47.49	47.69	47.69	47.89	47.89	48.09	48.09	48.29	48.29	48.50	48.50
Short Circuit Current- I_{sc} (A)	16.76	17.56	16.82	17.62	16.88	17.69	16.95	17.75	17.01	17.82	17.07	17.89

Power Bifaciality: 80±5%.

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature) 43°C (±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

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

MAXIMUM RATINGS

Operational Temperature -40~+85°C

Maximum System Voltage 1500V DC (IEC)

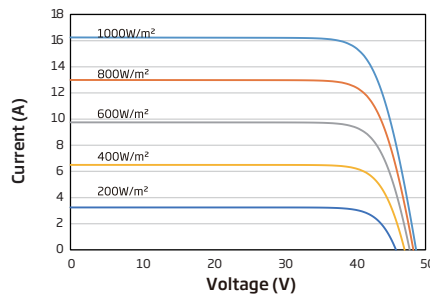
1500V DC (UL)

Max Series Fuse Rating 35A

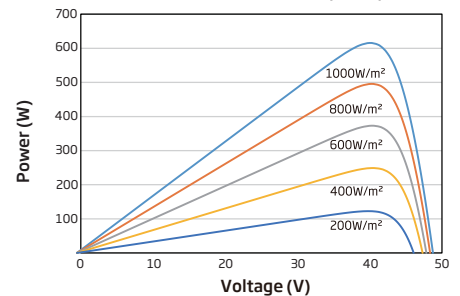
CURVES OF PV MODULE

Preliminary

I-V CURVES OF PV MODULE (615W)



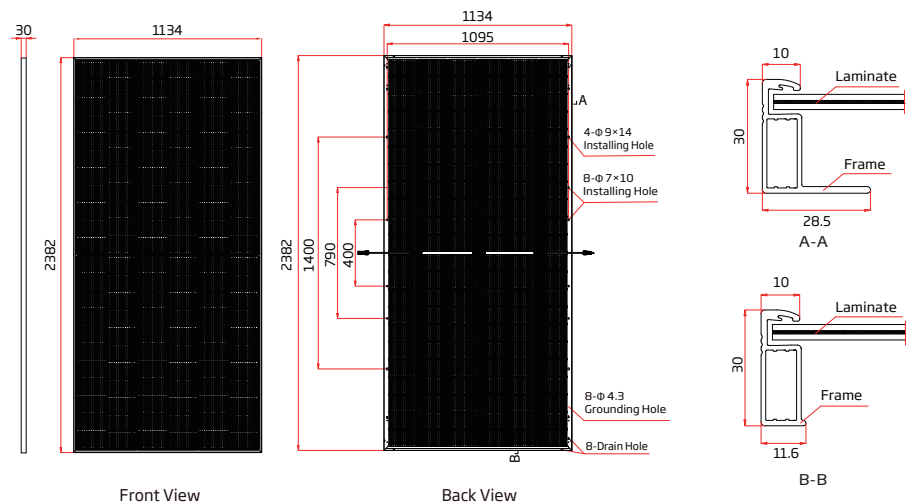
P-V CURVES OF PV MODULE (615W)



MECHANICAL DATA

Solar Cells	N-type TOPCon Monocrystalline
No. of cells	132 cells
Module Dimensions	2382×1134×30 mm (93.78×44.65×1.18 inches)
Weight	39.7 kg (87.5 lb)
Front Glass	AR Coating Heat Strengthened Glass
Back Glass	Heat Strengthened Glass
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: 200/320 mm (7.87/12.60 inches) Length can be customized
Connector	MC4 EV02 / TS4 Plus / TS4*
Fire Type	Type 30 or Class A
Packaging	Modules per box: 36 pieces Modules per 40'/53' container: 432 pieces

*Please refer to regional datasheet for specified connector.



www.trinasolar.com

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.
© 2025 Trina Solar Co., Ltd. All rights reserved. Specifications included in this datasheet are subject to change without notice.
The right of final interpretation belongs to Trina Solar Co., Ltd.
Version number: TSM_NA_EN_2025_PA5