

**Strong
Wind Protection**

**Severe
Hail Protection**

**Heavy
Snow Protection**

**Superior
Fire Protection**

Vertex N

— **TOPCon** —

Shield

TSM-NED19RC.20
595-620W

Key Features



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



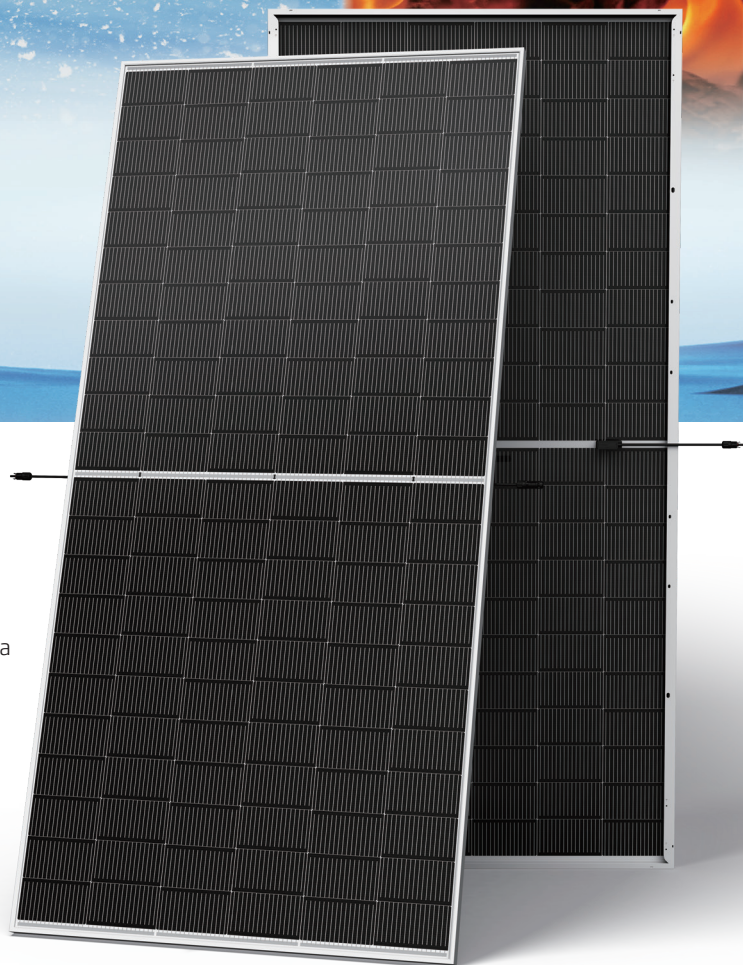
Mechanical load with fixed mounting installation: +6000/-4000Pa
Mechanical load with tracking installation: +3600/-3000Pa



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

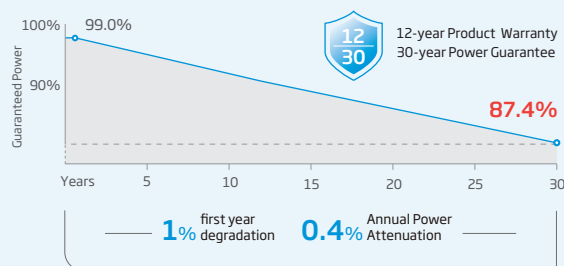
- Passed salt, ammonia, dust, PID, LID, LeTID certification



Diversified scenario 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

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.

APPLICATION CONDITIONS

Operating Temperature -40~+70°C

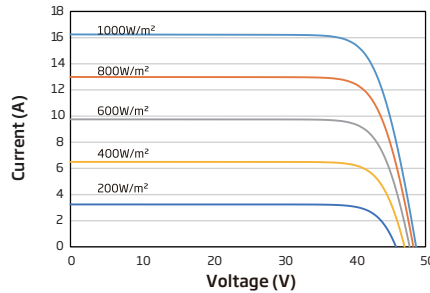
Maximum System Voltage 1500V DC (IEC)

1500V DC (UL)

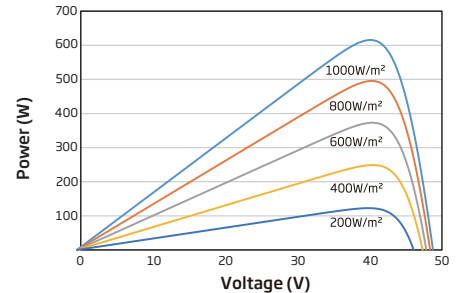
Max Series Fuse Rating 35A

CURVES OF PV MODULE

I-V CURVES OF PV MODULE (615W)



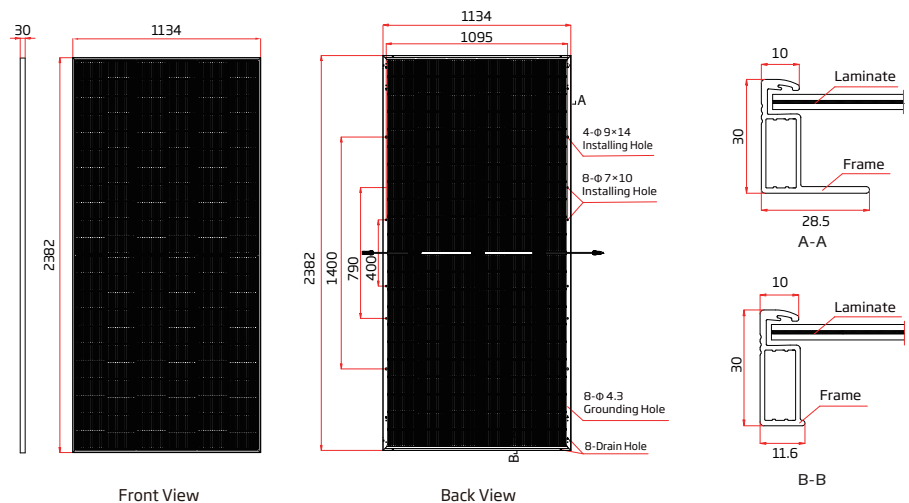
P-V CURVES OF PV MODULE (615W)



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(White Coating)
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(3.78/11.02 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.



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CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.
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