



N-type i-TOPCon

BACKSHEET MONOCRYSTALLINE MODULE

TSM-XXXNE19R 600-630W

630_W / MAXIMUM
POWER OUTPUT

23.3% / MAXIMUM
EFFICIENCY



High customer value

- Standardized module size with flagship module power, 30W higher compared with conventional technology
- Low Voltage design with higher string power, effectively reducing BOS (Balance of System) and LCOE (Levelized Cost of Energy) by 1%~5%
- Suitable for all scenario, especially C&I, residential, and ground applications
- Higher container space utilization effectively reduces the freight cost
- Excellent compatibility with existing mainstream system components



High power up to 630W

- Up to 23.3% module efficiency, on 210 innovation platform
- Patented i-TOPCon technology with continuous efficiency improvement, including contact resistance reduction, rear reflection enhancement and edge quality repairment



High reliability

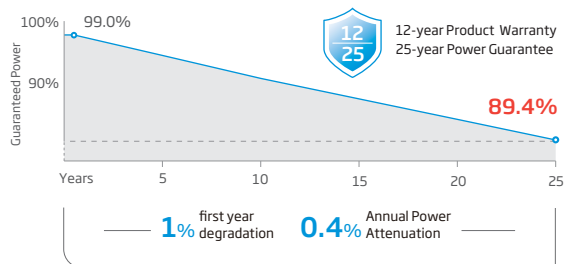
- Minimized micro-cracks with innovative non-destructive cutting technology and high-density packaging
- Reduced risks of hot-spot with half-cut technology
- Fire Class rating C, Safety Class II



High energy yield

- Excellent low irradiation performance, validated by 3rd party
- Lower temperature coefficient (-0.29%/°C)

Performance Warranty



* Please refer to product warranty for details

Comprehensive Products and System Certificates

IEC61215/IEC61730

ISO 9001: Quality Management System

ISO 14001: Environmental Management System

ISO14064: Greenhouse Gases Emissions Verification

ISO45001: Occupational Health and Safety Management System



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_AUS_EN_2025_B

Country of Origin: China

Trinasolar

ELECTRICAL DATA (STC) TSM-XXXNE19R(XXX=600-630)

Peak Power Watts- $P_{MAX}(W_p)^*$	600	605	610	615	620	625	630
Power Selection (W)	0 ~ +5						
Maximum Power Voltage- V_{MPP} (V)	40.3	40.5	40.8	41.1	41.4	41.6	42.0
Maximum Power Current- I_{MPP} (A)	14.91	14.94	14.96	14.98	14.99	15.00	15.01
Open Circuit Voltage- V_{oc} (V)	48.4	48.7	49.0	49.3	49.6	49.8	50.3
Short Circuit Current- I_{sc} (A)	15.80	15.83	15.86	15.89	15.91	15.93	15.94
Module Efficiency η_m (%)	22.2	22.4	22.6	22.8	23.0	23.1	23.3

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5. *Measuring tolerance: $P_{max} \pm 3\%$, $V_{oc} \pm 3\%$ and $I_{sc} \pm 4\%$

ELECTRICAL DATA (NOCT)

Peak Power Watts- $P_{MAX}(W_p)$	459	462	466	470	474	477	482
Maximum Power Voltage- V_{MPP} (V)	37.9	38.1	38.3	38.6	38.8	39.0	39.4
Maximum Power Current- I_{MPP} (A)	12.11	12.13	12.16	12.19	12.20	12.21	12.23
Open Circuit Voltage- V_{oc} (V)	46.0	46.2	46.5	46.8	47.1	47.3	47.6
Short Circuit Current- I_{sc} (A)	12.73	12.75	12.78	12.80	12.82	12.84	12.85

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

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature) 43°C ($\pm 2^\circ\text{C}$)

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

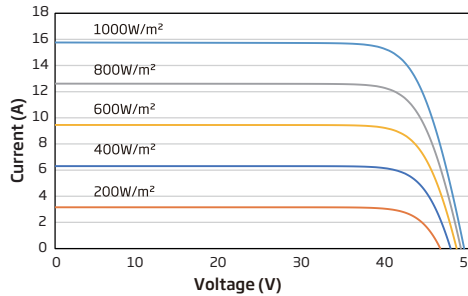
Operational Temperature -40~+70 °C

Maximum System Voltage 1500V DC (IEC)

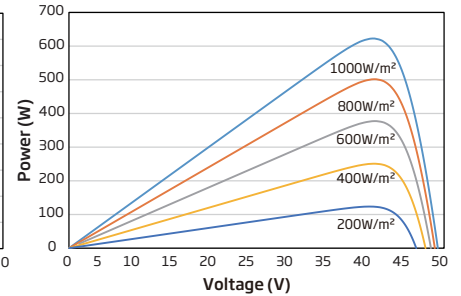
Max Series Fuse Rating 30A

CURVES OF PV MODULE

I-V CURVES OF PV MODULE (620W)

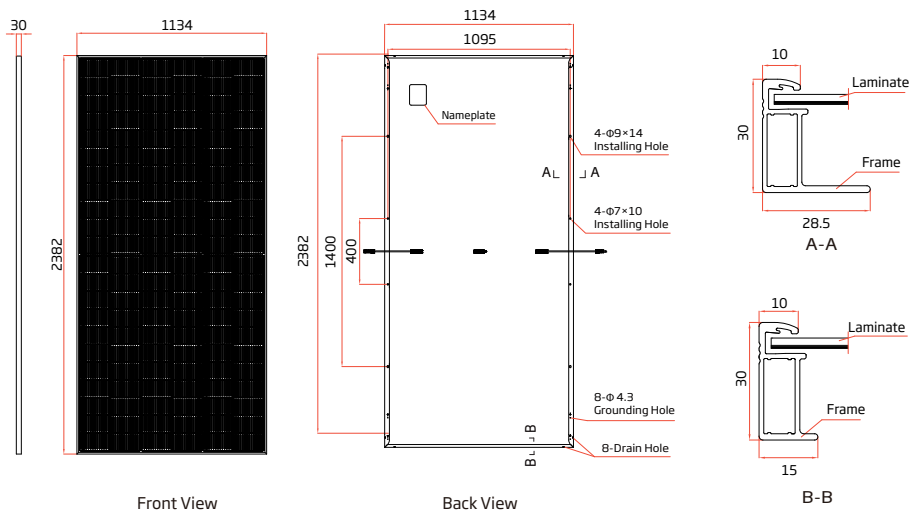


P-V CURVES OF PV MODULE (620W)



MECHANICAL DATA

Solar Cells	N-type i-TOPCon Monocrystalline
No. of cells	132 cells
Module Dimensions	2382×1134×30 mm (93.78×44.65×1.18 inches)
Weight	27.9 kg (61.51 lb)
Front Glass	3.2mm (0.13inches), AR Coating Tempered Glass
Backsheet	White
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	Stäubli Electrical Connectors AG PV-KST4-EVO2/xy_UR; PV-KBT4-EVO2/xy_UR PV-KST4-EVO2A/xy; PV-KBT4-EVO2A/xy
Packaging	Modules per box: 36 pieces Modules per 40' container: 720 pieces



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_AUS_EN_2025_B

Country of Origin: China