



# N-type i-TOPCon

ANTI-DUST BACKSHEET MONOCRYSTALLINE MODULE

TSM-NE19R.70 600-630W

**630<sub>W</sub>** / MAXIMUM  
POWER OUTPUT

**23.3%** / MAXIMUM  
EFFICIENCY



## Optimized for installation with low angle

- Patented frame design, reduce dust accumulation, boosting electricity output
- Accelerated sliding of snow, increased duration of power generation
- Designed for C&I color steel roof and low inclination mounting



## 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%
- Higher container space utilization effectively reduces the freight cost



## High power up to 630W

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



## High reliability

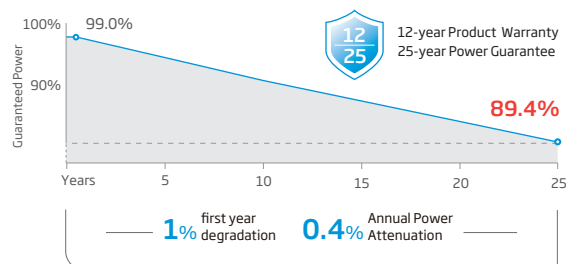
- Minimized micro-cracks with innovative non-destructive cutting technology and high-density packaging
- Reduced risks of hot-spot with half-cut technology
- Certified high resistance against salt, ammonia, sand, PID, LID, LeTID
- Sustainable in harsh environments and extreme weather conditions



## 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/IEC61701/IEC62716

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.

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## ELECTRICAL DATA (STC)

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 $\eta_m$ (%)	22.2	22.4	22.6	22.8	23.0	23.1	23.3

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5. \*Measuring tolerance:  $\pm 3\%$ . \*\*Power selection up to: +3%.

## 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/m<sup>2</sup>, 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.

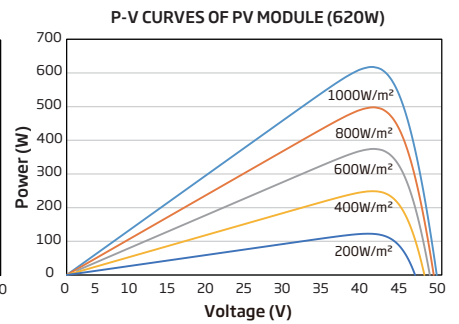
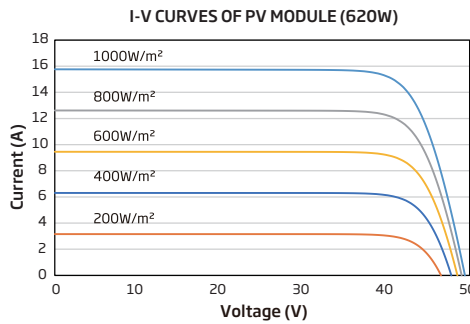
## MAXIMUM RATINGS

Operational Temperature -40~+85°C

Maximum System Voltage 1500V DC (IEC)

Max Series Fuse Rating 30A

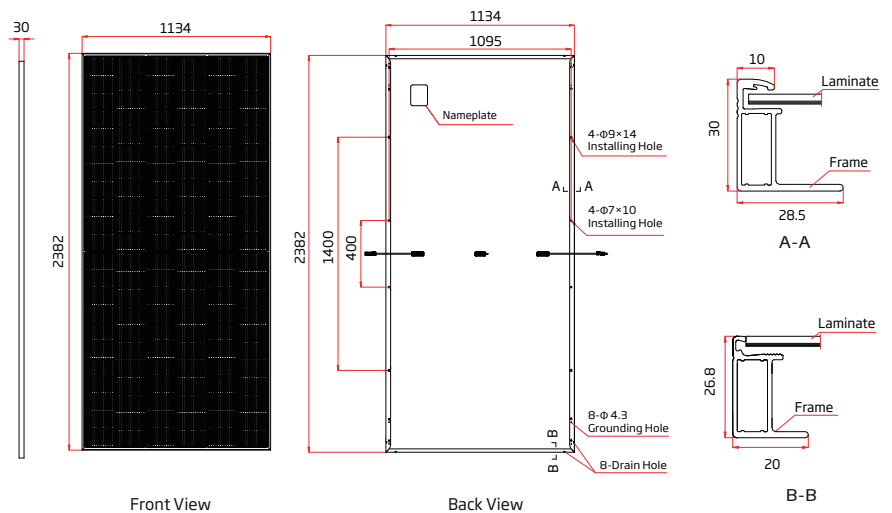
## CURVES OF PV MODULE



## 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	27.7 kg (61.07 lb)
Front Glass	3.2mm (0.13 inches), 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 <sup>2</sup> (0.006 inches <sup>2</sup> ) Portrait: 350/280 mm (13.78/11.02 inches) Length can be customized
Connector	MC4 EV02 / TS4 Plus / TS4*
Packaging	Modules per box: 36 pieces Modules per 40' container: 720 pieces

\*Please refer to regional datasheet for specified connector.



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