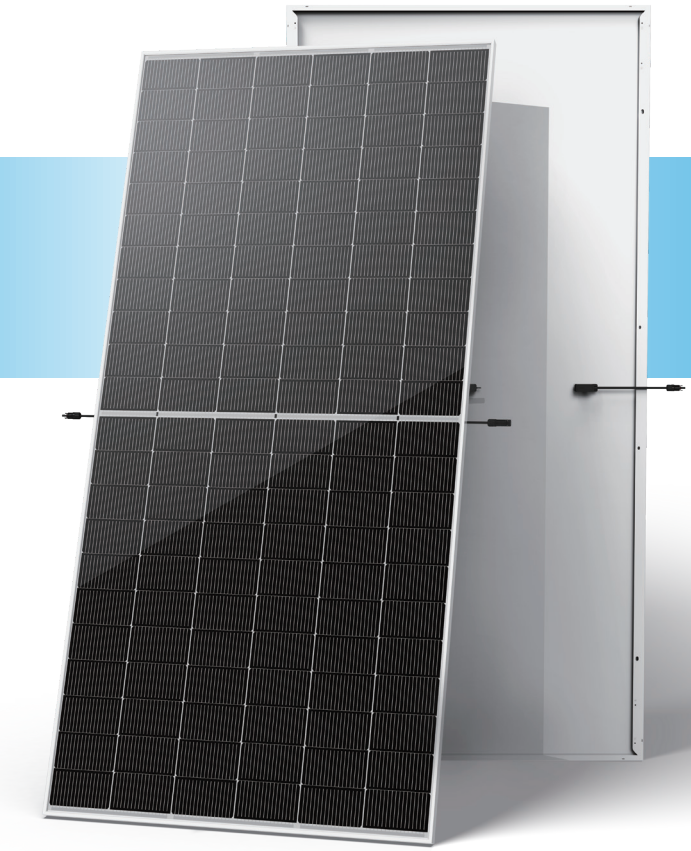
# Vertex N

## N-type i-TOPCon

### MONOFACIAL DUAL GLASS MODULE

TSM-xxxNEG19R.20 **620-640W**



**640W** MAXIMUM POWER OUTPUT

**23.7%** MAXIMUM EFFICIENCY

### High customer value

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

### High power up to 640W

- Up to 23.7% 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

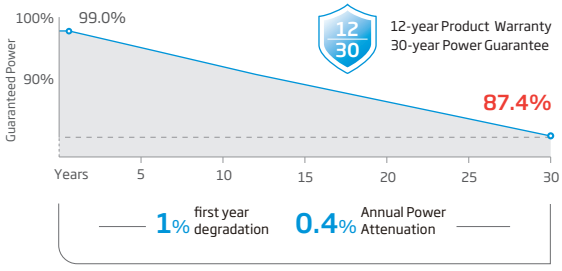
### High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology and high-density packaging
- Reduced risks of hot-spot with half-cut technology
- Fire Class C , Safety Class II
- Mechanical performance up to 5400 Pa static test load, Front and 2400 Pa static test load, Back

### High energy yield

- Excellent low irradiation performance, validated by 3rd party
- Lower temperature coefficient (-0.29%/°C)
- Reliable dual-glass structure with 30-year power guarantee

### 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.
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Version number: TSM_AUS_EN_2026_A
Country of Origin: China

Trinasolar

# Vertex N

N-type i-TOPCon MONOFACIAL DUAL GLASS MODULE

## ELECTRICAL DATA (STC) TSM-xxxNEG19R.20(xxx=620-640)

| Peak Power Watts-PMAX(Wp)* | 620 | 625 | 630 | 635 | 640 |
|---|---|---|---|---|---|
| Power Selection (W) | | | 0 ~ +5 | | |
| Maximum Power Voltage-VMPP (V) | 40.24 | 40.46 | 40.68 | 40.84 | 41.06 |
| Maximum Power Current-IMPP (A) | 15.41 | 15.45 | 15.49 | 15.55 | 15.60 |
| Open Circuit Voltage-VOC (V) | 48.50 | 48.70 | 48.90 | 49.10 | 49.30 |
| Short Circuit Current-ISC (A) | 16.26 | 16.32 | 16.38 | 16.44 | 16.51 |
| Module Efficiency η m (%) | 23.0 | 23.1 | 23.3 | 23.5 | 23.7 |

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5. *Measuring tolerance: Pmax±3%, Voc±3% and Isc ±4%

## ELECTRICAL DATA (NOCT)

| Peak Power Watts-PMAX(Wp) | 473 | 477 | 481 | 487 | 489 |
|---|---|---|---|---|---|
| Maximum Power Voltage-VMPP (V) | 37.90 | 38.10 | 38.30 | 38.60 | 38.70 |
| Maximum Power Current-IMPP (A) | 12.47 | 12.52 | 12.57 | 12.60 | 12.67 |
| Open Circuit Voltage-VOC (V) | 46.10 | 46.30 | 46.50 | 46.60 | 46.80 |
| Short Circuit Current-ISC (A) | 13.10 | 13.15 | 13.20 | 13.25 | 13.30 |

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

## TEMPERATURE RATINGS

| NOCT (Nominal Operating Cell Temperature) | 43℃ (±2℃) |
|---|---|
| Temperature Coefficient of PMAX | - 0.29% /℃ |
| Temperature Coefficient of VOC | - 0.24% /℃ |
| Temperature Coefficient of ISC | 0.04% /℃ |

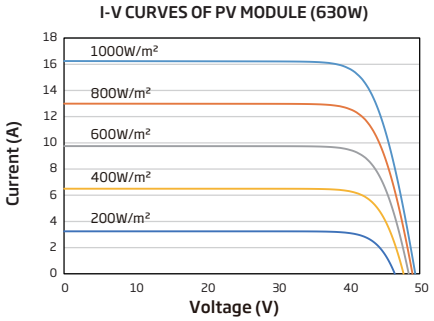
Due to different testing methods, the actual performances might differ from the declared specifications.

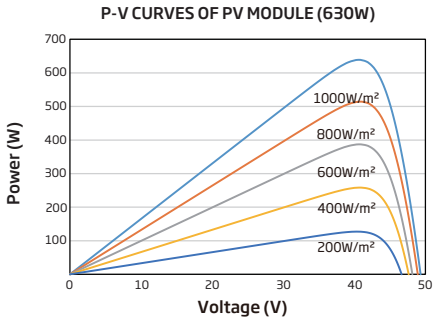
## APPLICATION CONDITIONS

| Operating Temperature* | -40~+70℃ |
|---|---|
| Maximum System Voltage | 1500V DC (IEC) |
| Max Series Fuse Rating | 35A |

*PV module 98th percentile operating temperature : 70℃

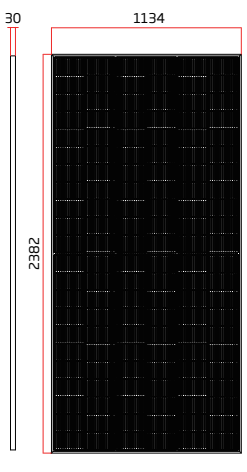
## CURVES OF PV MODULE



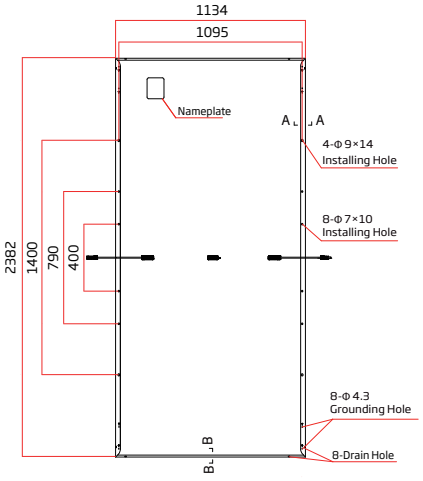




## MECHANICAL DATA

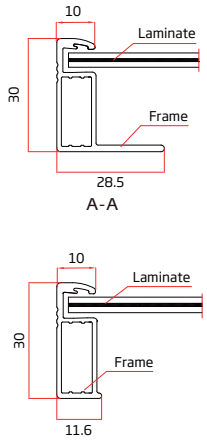
| Solar Cells | N-type i-TOPCon Monocrystalline |
|---|---|
| No. of cells | 132 cells |
| Module Dimensions | 2382×1134×30 mm (93.78×44.65×1.18 inches) |
| Weight | 30.0 kg (66.1 lb) |
| Front Glass | 2.0 mm (0.08 inches), AR Coating Heat Strengthened Glass |
| Back Glass | 1.6 mm (0.06 inches), Heat Strengthened Glass |
| Frame | 30mm(1.18 inches) Anodized Aluminium Alloy |
| J-Box | IP 68 rated |
| Cables | Photovoltaic Technology Cable 4.0/6.0mm² (0.006/0.009 inches²) Portrait:200/320 mm(7.87/12.60inches) Length can be customized |
| Connector | Trinasolar, TS4-cd Stäubli Electrical Connectors AG PV-KST4-EVO2/xy_UR; PV-KBT4-EVO2/xy_UR |
| Packaging | Modules per box: 36 pieces Modules per 40' container: 720 pieces |




Front View




Back View




B-B

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