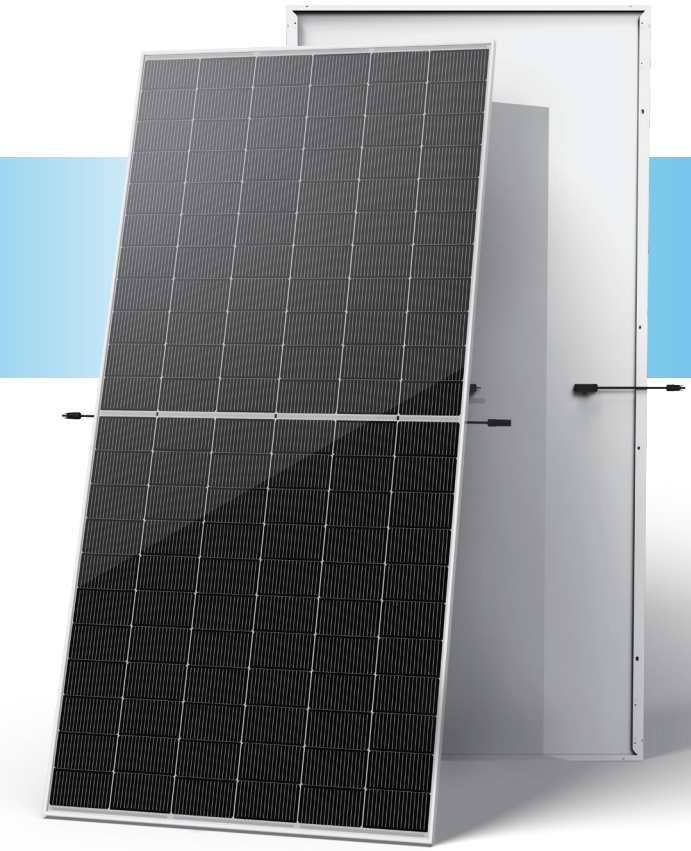
Vertex N

N-type i-TOPCon

MONOFACIAL DUAL GLASS MODULE

TSM-NEG19R.20 **605-635W**



635W / MAXIMUM POWER OUTPUT

23.5% / 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 635W

- Up to 23.5% 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

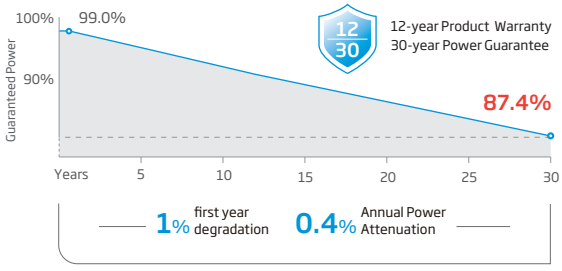
High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology and high-density packaging
- Reduced risks of hot-spot with half-cut technology
- 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)
- 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/IEC61701/IEC62716
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupational Health and Safety Management System

Version number: TSM_EN_2025_A

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ELECTRICAL DATA (STC)

Peak Power Watts-PMAX(Wp)*	605	610	615	620	625	630	635
Power Selection (W)**				0 ~ +5			
Maximum Power Voltage-VMPP (V)	40.5	40.8	41.1	41.4	41.7	42.0	42.3
Maximum Power Current-IMPP (A)	14.94	14.96	14.98	14.99	15.00	15.01	15.02
Open Circuit Voltage-VOC (V)	48.7	49.0	49.3	49.6	49.9	50.2	50.5
Short Circuit Current-ISC (A)	15.83	15.86	15.89	15.91	15.92	15.93	15.94
Module Efficiency η m (%)	22.4	22.6	22.8	23.0	23.1	23.3	23.5

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5. *Measuring tolerance: ±3%. **Power selection up to: +3%.

ELECTRICAL DATA (NOCT)

Peak Power Watts-PMAX(Wp)	462	466	470	474	478	482	486
Maximum Power Voltage-VMPP (V)	38.1	38.3	38.6	38.8	39.1	39.4	39.7
Maximum Power Current-IMPP (A)	12.13	12.16	12.19	12.20	12.21	12.22	12.23
Open Circuit Voltage-VOC (V)	46.2	46.5	46.8	47.1	47.3	47.7	48.0
Short Circuit Current-ISC (A)	12.75	12.78	12.80	12.82	12.83	12.84	12.85

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

TEMPERATURE RATINGS

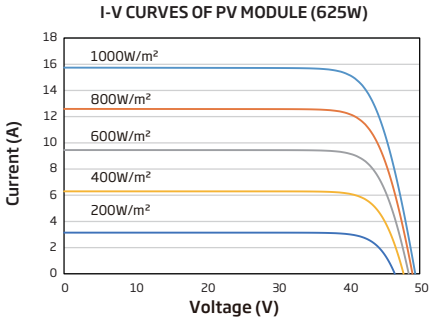
NOCT (Nominal Operating Cell Temperature)	43℃ (±2℃)
Temperature Coefficient of PMAX	- 0.29% /℃
Temperature Coefficient of VOC	- 0.24% /℃
Temperature Coefficient of ISC	0.04% /℃

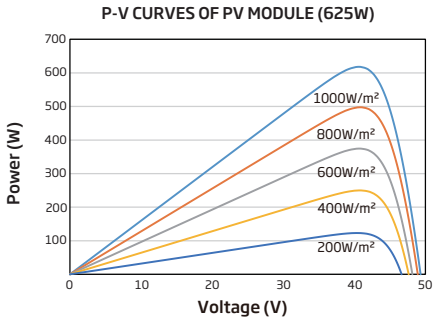
Due to different testing methods, the actual performances might differ from the declared specifications.

APPLICATION CONDITIONS

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

CURVES OF PV MODULE

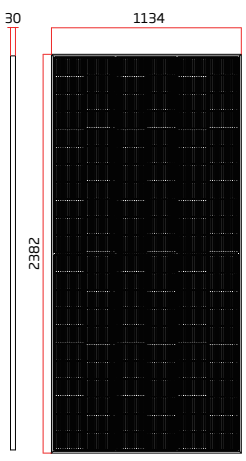




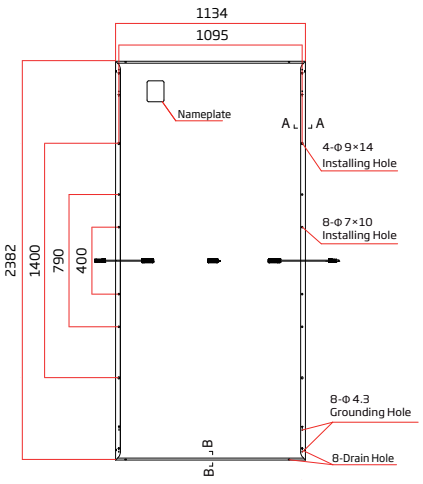
MECHANICAL DATA

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 4.0mm² (0.006 inches²) Portrait: 350/280 mm(13.78/11.02 inches) Length can be customized
Connector	MC4 EVO2 / TS4 Plus / TS4*
Packaging	Modules per box: 36 pieces Modules per 40' container: 720 pieces

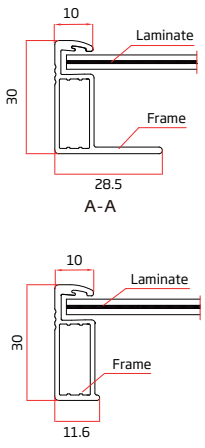
*Please refer to regional datasheet for specified connector.



Front View



Back View



B-B

Version number: TSM_EN_2025_A

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