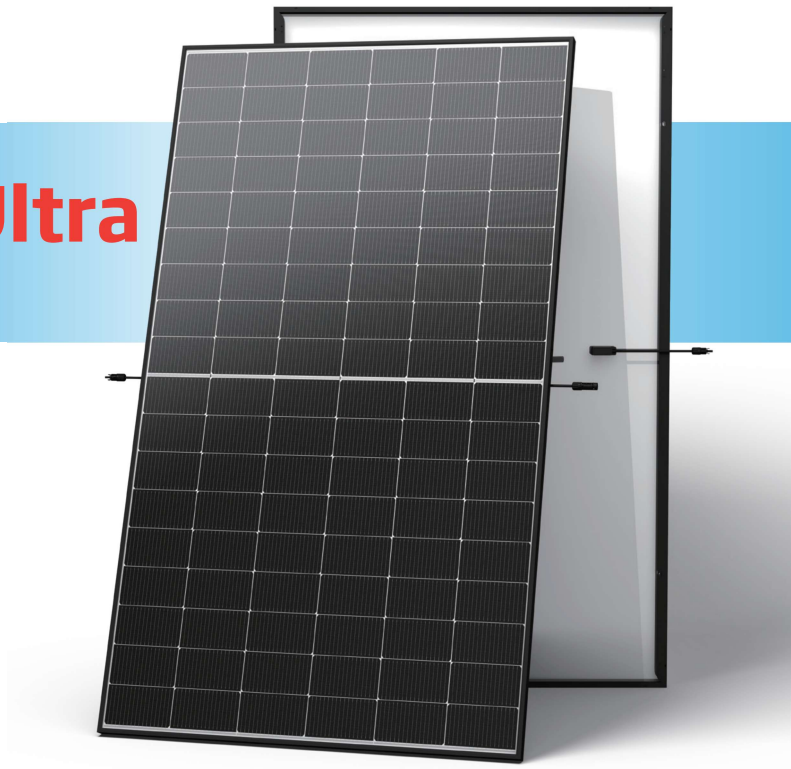
Vertex S+

N-type i-TOPCon Ultra

MONOFACIAL DUAL GLASS MODULE



TSM-NEG18R.28 **495-525W**

525W / MAXIMUM POWER OUTPUT

23.6% / MAXIMUM EFFICIENCY

High customer value

- Lower LCOE (levelized cost of energy), reduced BOS (balance of system) cost, shorter payback time
- Designed for compatibility with existing mainstream system components
- High module power, high string power and low voltage design
- Easy to handle and install on roofs with excellent size and light weight

High power up to 525W

- Up to 23.6% 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

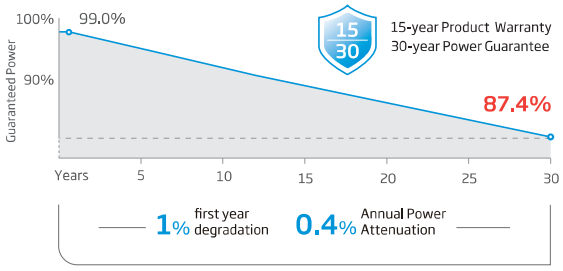
Dual-glass design, high reliability

- Less prone to micro-cracks and scratches on the back side
- Applicable in harsh environments such as salt, ammonia, sand, high temperature and high humidity areas with excellent fire rating, weather resistance, salt spray, sand dust, ammonia performance
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load

High energy yield

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

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

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Vertex S+

N-type i-TOPCon Ultra MONOFACIAL DUAL GLASS MODULE

ELECTRICAL DATA (STC)

Peak Power Watts-PMAX(Wp)*	495	500	505	510	515	520	525
Power Selection (W)**				0 ~ +5			
Maximum Power Voltage-VMPP (V)	33.10	33.30	33.50	33.70	33.90	34.10	34.30
Maximum Power Current-IMPP (A)	14.97	15.03	15.09	15.14	15.20	15.25	15.31
Open Circuit Voltage-VOC (V)	39.80	40.10	40.30	40.60	40.90	41.20	41.60
Short Circuit Current-ISC (A)	15.83	15.86	15.89	15.93	15.96	15.99	16.02
Module Efficiency η m (%)	22.3	22.5	22.7	22.9	23.2	23.4	23.6

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)	378	382	386	390	394	396	401
Maximum Power Voltage-VMPP (V)	31.30	31.50	31.80	31.90	32.20	32.30	32.70
Maximum Power Current-IMPP (A)	12.08	12.11	12.15	12.21	12.23	12.26	12.27
Open Circuit Voltage-VOC (V)	37.70	38.00	38.30	38.50	38.80	39.00	39.50
Short Circuit Current-ISC (A)	12.76	12.78	12.81	12.84	12.86	12.89	12.91

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

TEMPERATURE RATINGS

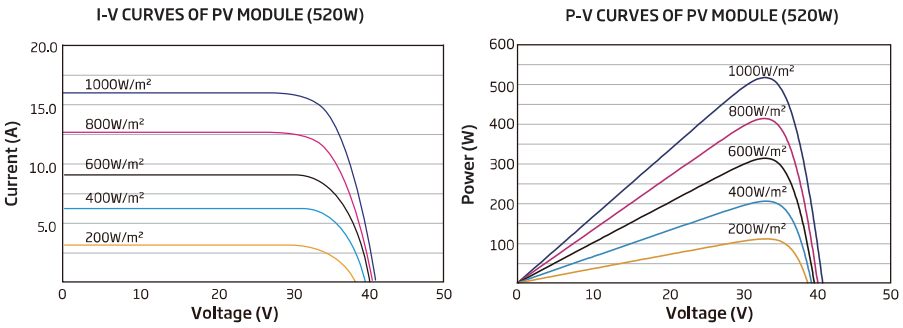
NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of PMAX	- 0.29% /°C
Temperature Coefficient of VOC	- 0.24% /°C
Temperature Coefficient of ISC	0.04% /°C

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)
Max Series Fuse Rating	30A

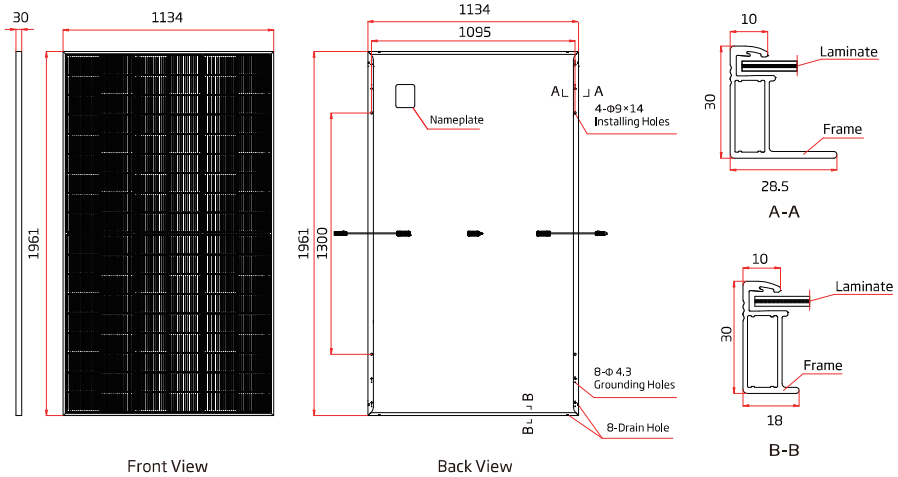
CURVES OF PV MODULE



MECHANICAL DATA

Solar Cells	N-type i-TOPCon Monocrystalline
No. of cells	108 cells
Module Dimensions	1961×1134×30 mm (77.20×44.65×1.18 inches)
Weight	23.5 kg (51.8 lb)
Front Glass	1.6mm (0.06inches), AR Coating Heat Strengthened Glass
Back Glass	1.6mm (0.06 inches), Heat Strengthened Glass
Frame	30mm(1.18 inches) Anodized Aluminium Alloy, Black
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²) Portrait:200/320 mm(7.87/12.60inches) Length can be customized
Connector	TS4 Plus / TS4 / MC4 EVO2 *
Packaging	Modules per box: 36 pieces Modules per 40' container: 864 pieces

*The connector names listed are general names; specific types are subject to the certification documents.



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