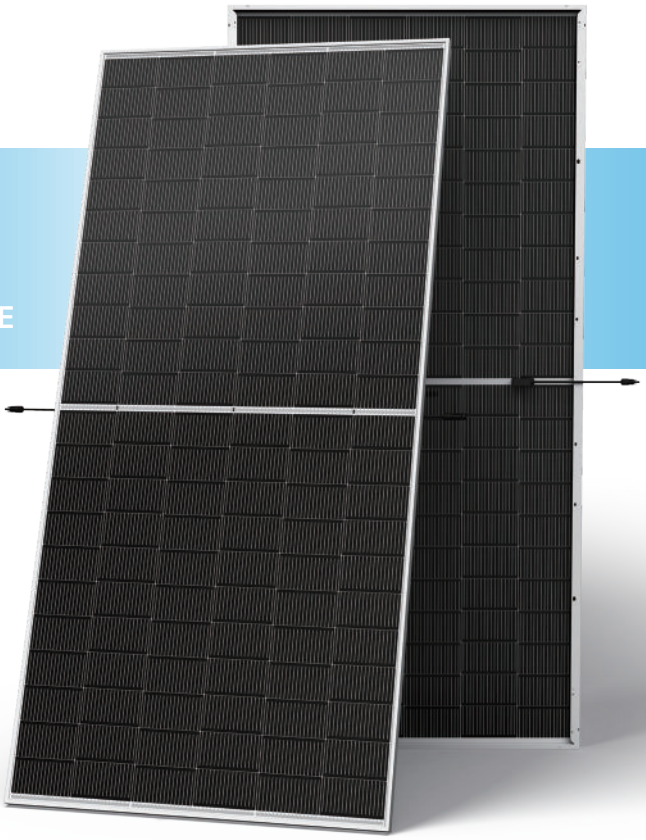
Vertex N

N-type i-TOPCon

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE



TSM-NEG19RC.20 **595-625W**

625W / MAXIMUM POWER OUTPUT

23.1% / MAXIMUM EFFICIENCY

High customer value

- Best partner of 1P tracker, with highest utilization of tracker length
- 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
- Certified Low-Carbon Footprint

High power up to 625W

- Up to 23.1% module efficiency , on 210 innovation platform
- Patented i-TOPCon technology with continuous efficiency upgrade, including contact resistance reduction, rear reflection enhancement and edge quality repairment

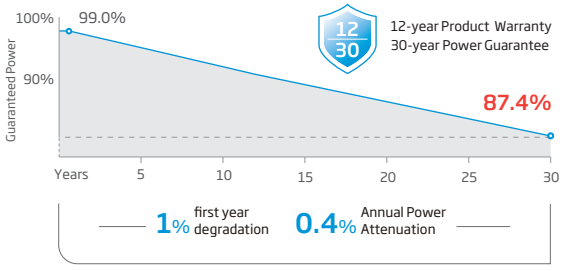
High reliability

- 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)
- Higher bifaciality, with up to 10%~20% additional power gain from back side depending on albedo
- 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/UL61730
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupational Health and Safety Management System
ISO14067: Product Carbon Footprint Limited Assurance

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Vertex N

N-type i-TOPCon BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

ELECTRICAL DATA (STC & NOCT)

Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Peak Power Watts-PMAX(Wp)*	595	454	600	459	605	462	610	466	615	470	620	474	625	478
Power Tolerance-PMAX(Wp)*	0 ~ +5													
Maximum Power Voltage-VMPP (V)	40.0	37.6	40.3	37.9	40.5	38.1	40.8	38.3	41.4	38.6	41.4	38.8	41.7	39.1
Maximum Power Current-IMPP (A)	14.89	12.07	14.91	12.11	14.94	12.13	14.96	12.16	14.98	12.19	14.99	12.20	15.00	12.21
Open Circuit Voltage-VOC (V)	48.1	45.7	48.4	46.0	48.7	46.2	49.0	46.5	49.3	46.8	49.6	47.1	49.9	47.3
Short Circuit Current-ISC (A)	15.76	12.69	15.80	12.73	15.83	12.75	15.86	12.78	15.89	12.80	15.91	12.82	15.92	12.83
Module Efficiency η m (%)	22.0		22.2		22.4		22.6		22.8		23.0		23.1	

STC: Irrdiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5. NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s. *Measuring tolerance: ±3%.

Electrical characteristics with different power bin (reference to 5% & 10% backside power gain)

Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Peak Power Watts-PMAX(Wp)*	625	655	630	660	635	666	641	671	646	677	651	682	656	688
Maximum Power Voltage-VMPP (V)	40.0	40.0	40.3	40.3	40.5	40.5	40.8	40.8	41.1	41.1	41.4	41.4	41.7	41.7
Maximum Power Current-IMPP (A)	15.63	16.38	15.66	16.40	15.69	16.43	15.71	16.46	15.73	16.48	15.74	16.49	15.75	16.50
Open Circuit Voltage-VOC (V)	48.1	48.1	48.4	48.4	48.7	48.7	49.0	49.0	49.3	49.3	49.6	49.6	49.9	49.9
Short Circuit Current-ISC (A)	16.55	17.34	16.59	17.38	16.62	17.41	16.65	17.45	16.68	17.48	16.71	17.50	16.72	17.51

Power Bifaciality:80±5%.

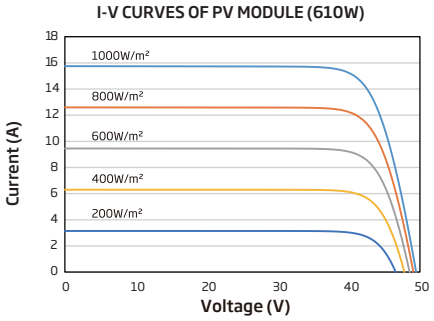
TEMPERATURE RATINGS

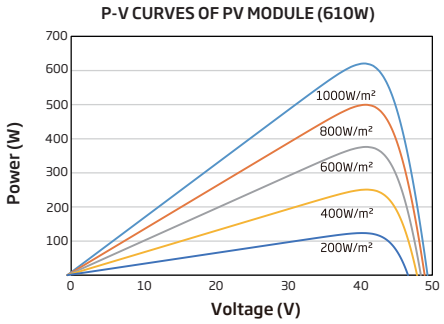
NOCT (Nominal Operating Cell Temperature)	43℃ (±2℃)
Temperature Coefficient of PMAX	- 0.29% /℃
Temperature Coefficient of VOC	- 0.24% /℃
Temperature Coefficient of ISC	0.04% /℃

MAXIMUM RATINGS

Operational Temperature	-40~+85℃
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)
Max Series Fuse Rating	35A

CURVES OF PV MODULE

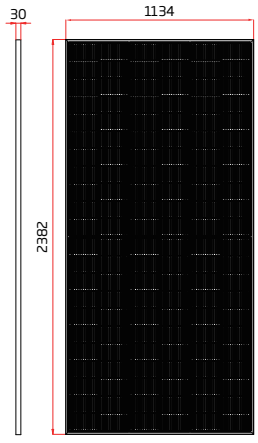




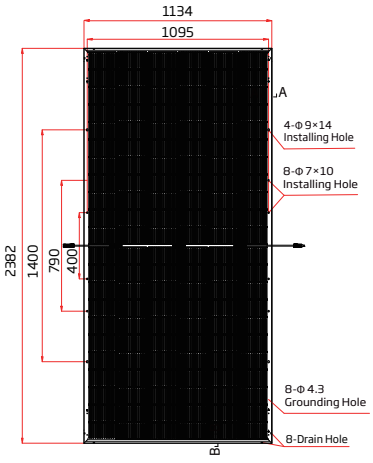
MECHANICAL DATA

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	33.0 kg (72.8 lb)
Front Glass	2.0 mm (0.08 inches),High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	POE/EVA
Back Glass	2.0 mm (0.08 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

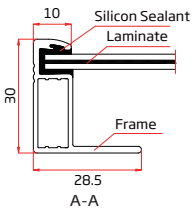
*Please refer to regional datasheet for specified connector.

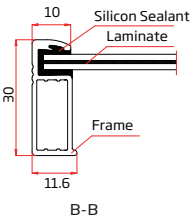


Front View



Back View





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