

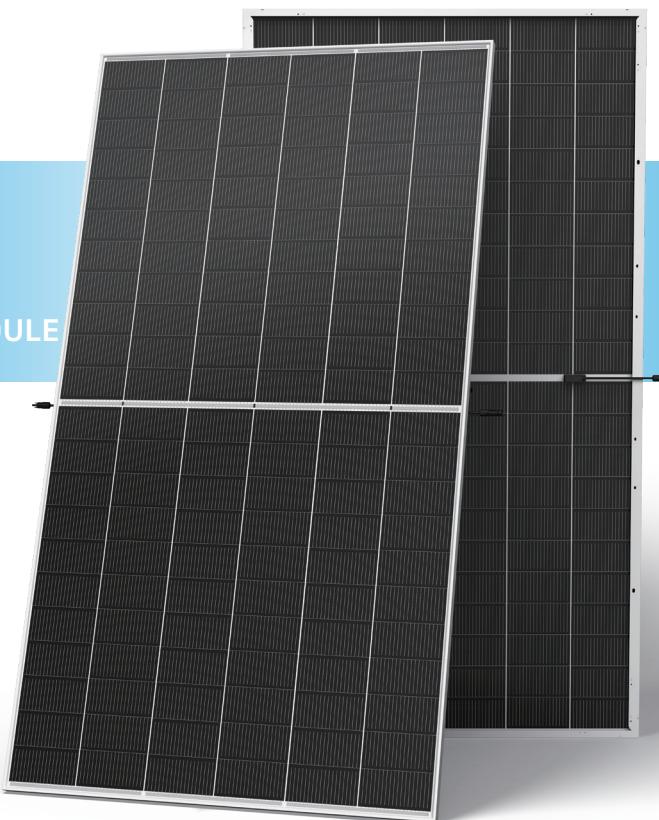
N-type i-TOPCon

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

TSM-NEG21C.20 695-720W

720W / MAXIMUM POWER OUTPUT

23.2% / MAXIMUM EFFICIENCY



High customer value

- Standardized module size with flagship module power, 35W 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 2%~6%
- Higher container space utilization effectively reduces the freight cost
- Certified Low-Carbon Footprint
- The Star of LCOE



High power up to 720W

- Up to 23.2% 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

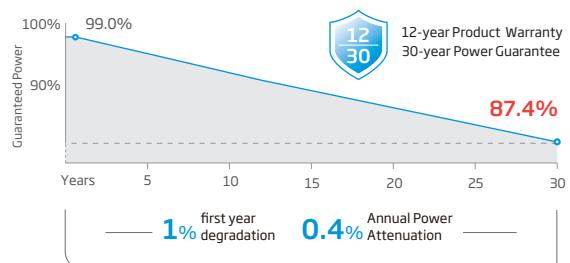
- Minimized micro-cracks with innovative non-destructive cutting technology and high-density packaging
- Reduced risks of hot-spot with half-cut technology
- Certified high resistance against salt, ammonia, sand, PID, LID, LeTID
- Sustainable in harsh environments and extreme weather conditions



High energy yield

- Excellent low irradiation performance, validated by 3rd party
- Lower temperature coefficient (-0.29%/°C)
- 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
 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
 ISO14025: Environmental Product Declaration



ELECTRICAL DATA (STC & NOCT & BNPI)															
Testing Condition	STC	NOCT	BNPI												
Peak Power Watts-PMAX(Wp)*	695	531	770	700	534	776	705	540	781	710	543	787	715	547	792
Power Selection (W)**															
Maximum Power Voltage-VMPP (V)	40.3	37.9	40.3	40.5	38.0	40.5	40.7	38.3	40.7	40.9	38.5	40.9	41.1	38.7	41.1
Maximum Power Current-IMPP (A)	17.25	14.00	19.11	17.29	14.04	19.15	17.33	14.08	19.19	17.36	14.12	19.23	17.40	14.14	19.28
Open Circuit Voltage-Voc (V)	48.3	45.9	48.3	48.6	46.1	48.6	48.8	46.3	48.8	49.0	46.5	49.0	49.2	46.7	49.2
Short Circuit Current-Isc (A)	18.28	14.72	20.25	18.32	14.76	20.30	18.36	14.80	20.34	18.40	14.83	20.39	18.44	14.86	20.43
Module Efficiency η m (%)	22.4			22.5			22.7			22.9			23.0		23.2
STC: Irradiance 1000W/m ² , Cell Temperature 25°C, Air Mass AM1.5. NOCT: Irradiance at 800W/m ² , Ambient Temperature 20°C, Wind Speed 1m/s. BNPI: Irradiance: front 1000W/m ² , rear 135W/m ² , Temperature 25°C, Air Mass AM1.5															
*Measuring tolerance: $\pm 3\%$. **Power selection up to: $\pm 3\%$.															

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5. NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s. BNPI: Irradiance: front 1000W/m², rear 135W/m², Temperature 25°C, Air Mass AM1.5

*Measuring tolerance: $\pm 3\%$. **Power selection up to: $\pm 3\%$.

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%
Peak Power Watts-PMAX(Wp)*	730	765	735	770	740	776	746	781	751	787
Maximum Power Voltage-VMPP (V)	40.3	40.3	40.5	40.5	40.7	40.7	40.9	40.9	41.1	41.1
Maximum Power Current-IMPP (A)	18.11	18.98	18.15	19.02	18.20	19.06	18.23	19.10	18.27	19.14
Open Circuit Voltage-Voc (V)	48.3	48.3	48.6	48.6	48.8	48.8	49.0	49.0	49.2	49.2
Short Circuit Current-Isc (A)	19.19	20.11	19.24	20.15	19.28	20.20	19.32	20.24	19.36	20.28

Power Bifaciality: 80 \pm 5%.

TEMPERATURE RATINGS

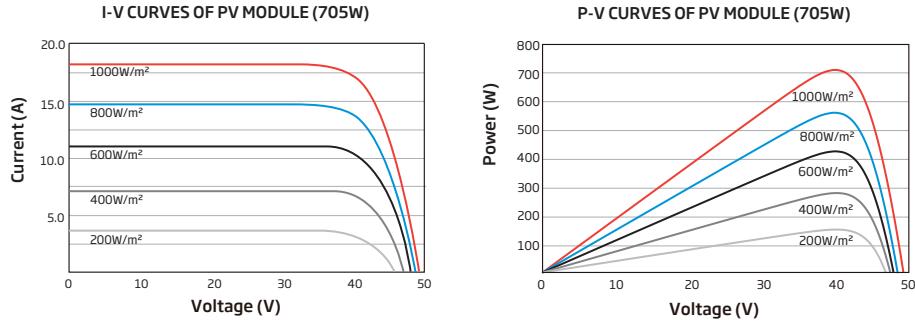
NOCT (Nominal Operating Cell Temperature)	43°C ($\pm 2\%$)
Temperature Coefficient of Pmax	-0.29% /°C
Temperature Coefficient of Voc	-0.24% /°C
Temperature Coefficient of Isc	0.04% /°C
Due to different testing methods, the actual performances might differ from the declared specifications.	

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)

Max Series Fuse Rating 35A

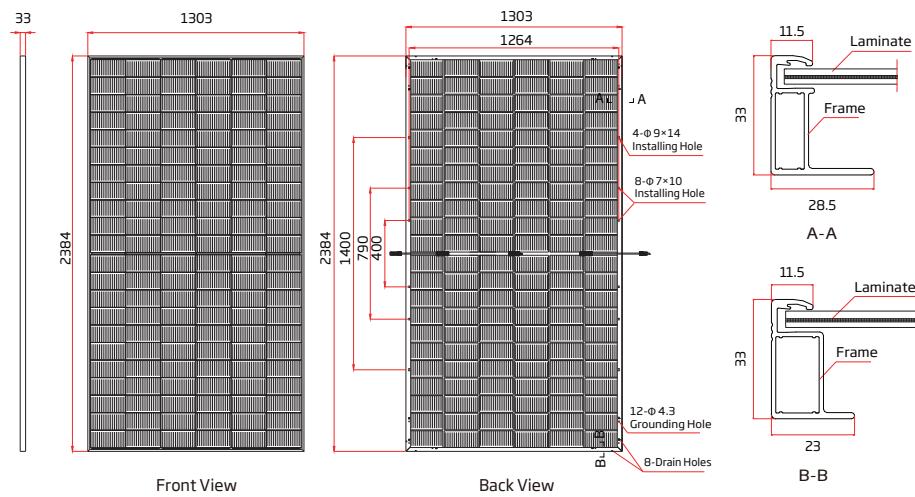
CURVES OF PV MODULE



MECHANICAL DATA

Solar Cells	N-type i-TOPCon Monocrystalline
No. of cells	132 cells
Module Dimensions	2384x1303x33 mm (93.86x51.30x1.30 inches)
Weight	38.3 kg (84.4 lb)
Front Glass	2.0 mm (0.08 inches), AR Coating Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (white Coating)
Frame	33mm(1.30 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm ² (0.06 inches ²) Portrait: 350/280 mm (13.78/11.02 inches) Length can be customized
Connector	MC4 EVO2 / TS4 Plus / TS4*
Packaging	Modules per box: 33 pieces Modules per 40' container: 594 pieces

*Please refer to regional datasheet for specified connector.



CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.
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