

THE

DUOMAX N

N-type i-TOPCon bifacial dual glass
Monocrystalline module

PRODUCT: TSM-NEG18C.20
PRODUCT RANGE: 570-590W

590W

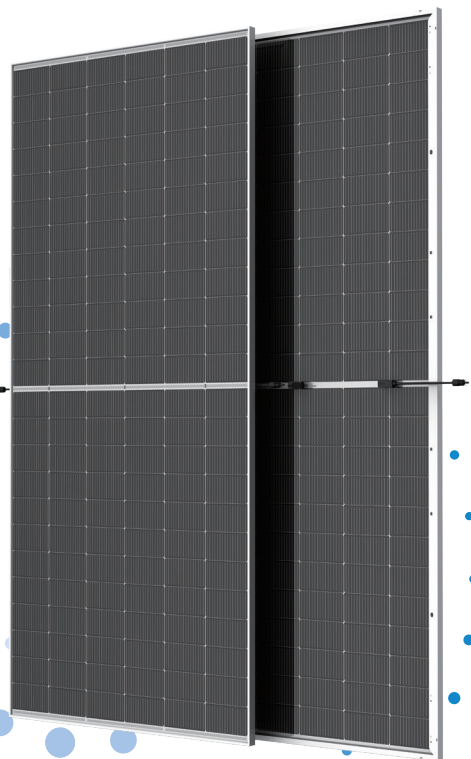
MAXIMUM POWER OUTPUT

0~+5W

POSITIVE POWER TOLERANCE

22.8%

MAXIMUM EFFICIENCY



High power up to 590W

- Up to 22.8% module efficiency with high density interconnect technology
- SMBB (Super multi-busbar) technology for better light trapping effect, lower series resistance and improved current collection



High reliability

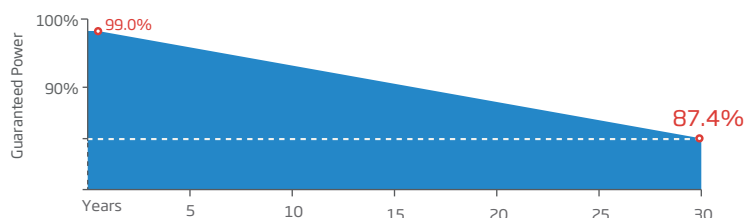
- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load



High energy yield

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party
- The unique design provides optimized energy production under inter-row shading conditions
- Lower temperature coefficient (-0.29%/°C) and operating temperature
- Up to 25% additional power gain from back side depending on albedo

Trina Solar's Bifacial Dual Glass Performance Warranty



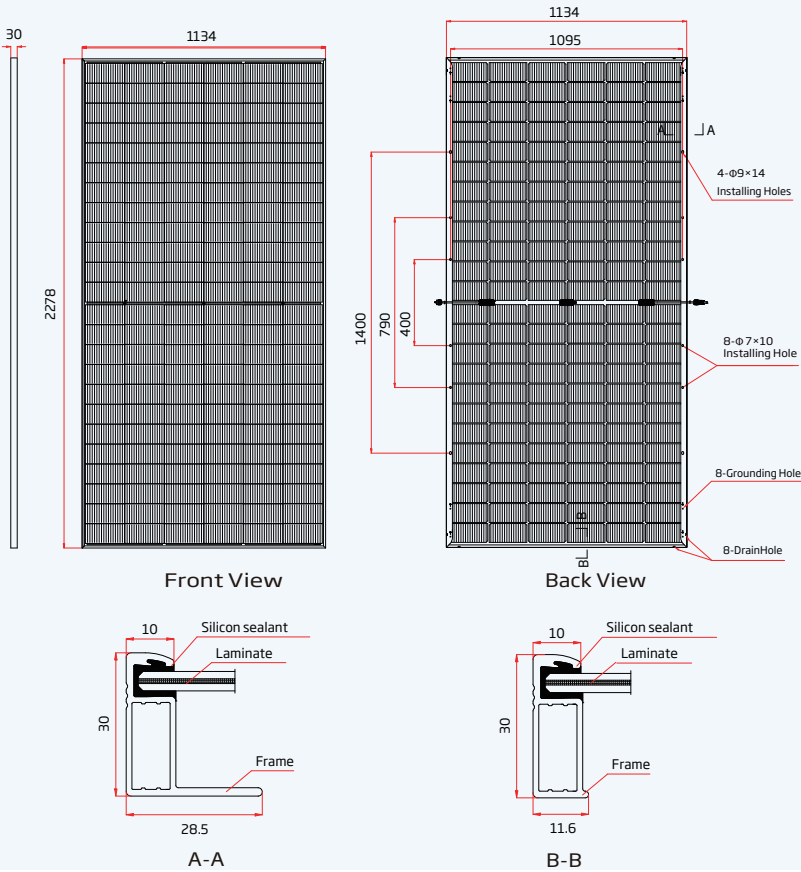
Comprehensive Products and System Certificates



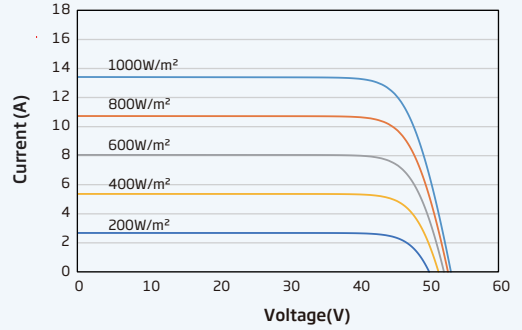
IEC61215/IEC61730/IEC61701/IEC62716
 ISO 9001: Quality Management System
 ISO 14001: Environmental Management System
 ISO14064: Greenhouse Gases Emissions Verification
 ISO45001: Occupational Health and Safety Management System



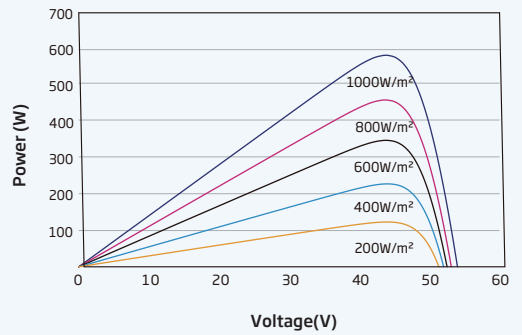
DIMENSIONS OF PV MODULE(mm)



I-V CURVES OF PV MODULE(580W)



P-V CURVES OF PV MODULE(580 W)



MECHANICAL DATA

Solar Cells	N-Type i-TOPCon Monocrystalline
No. of cells	144 cells
Module Dimensions	2278×1134×30 mm (89.69×44.65×1.18 inches)
Weight	31.9kg (70.3 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 (White Grid Glass)

Frame	30mm(1.18 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm ² (0.006 inches ²) Portrait: 350/280 mm(13.78/11.02 inches) Length can be customized
Connector	MC4 EVO2 / TS4 Plus / TS4*

*Please refer to regional datasheet for specified connector.

ELECTRICAL DATA (STC & NOCT)

Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Peak Power Watts -P _{MAX} (Wp)*	570	437	575	440	580	444	585	447	590	450
Power Tolerance-P _{MAX} (W)	0 ~ +5									
Maximum Power Voltage-V _{MPP} (V)	43.8	41.2	44.0	41.5	44.2	41.6	44.4	41.8	44.6	42.0
Maximum Power Current-I _{MPP} (A)	13.02	10.59	13.07	10.62	13.13	10.67	13.18	10.69	13.23	10.71
Open Circuit Voltage-V _{OC} (V)	51.8	49.3	52.0	49.5	52.2	49.7	52.4	49.9	52.6	50.2
Short Circuit Current-I _{SC} (A)	13.66	11.19	13.71	11.22	13.77	11.27	13.82	11.33	13.87	11.35
Module Efficiency η _m (%)	22.1		22.3		22.5		22.6		22.8	

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. *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%
Total Equivalent power -P _{MAX} (Wp)	599	627	604	633	609	638	614	644	620	649
Maximum Power Voltage-V _{MPP} (V)	43.8	43.8	44.0	44.0	44.2	44.2	44.4	44.4	44.6	44.6
Maximum Power Current-I _{MPP} (A)	13.67	14.32	13.72	14.38	13.79	14.44	13.84	14.50	13.89	14.55
Open Circuit Voltage-V _{OC} (V)	51.8	51.8	52.0	52.0	52.2	52.2	52.4	52.4	52.6	52.6
Short Circuit Current-I _{SC} (A)	14.34	15.03	14.40	15.08	14.46	15.15	14.51	15.20	14.56	15.26

Power Bifaciality:80±5%.

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of P _{MAX}	-0.29%/°C
Temperature Coefficient of V _{OC}	-0.24%/°C
Temperature Coefficient of I _{SC}	0.04%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85° C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	30A

WARRANTY

- 12 year Product Workmanship Warranty
 - 30 year Power Warranty
 - 1% first year degradation
 - 0.40% Annual Power Attenuation
- (Please refer to product warranty for details)

PACKAGING CONFIGURATION

- Modules per box: 36 pieces
- Modules per 40' container: 720 pieces