



BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

PRODUCT: TSM-XXXDEG20C.20

POWER RANGE: 580-600W

600W+

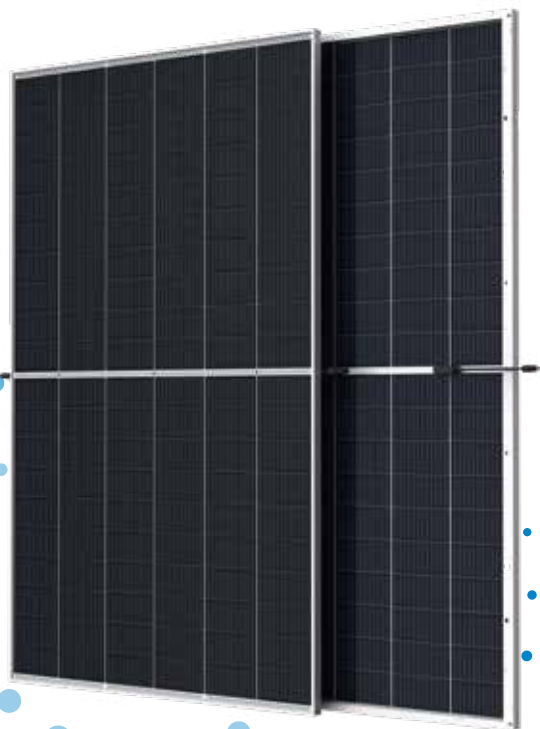
MAXIMUM POWER OUTPUT

0~+5W

BINNING TOLERANCE

21.2%

MAXIMUM EFFICIENCY



High customer value

- Lower LCOE (Levelized Cost Of Energy), reduced BOS (Balance of System) cost, shorter payback time
- Lowest guaranteed first year and annual degradation;
- Designed for compatibility with existing mainstream system components
- Higher return on Investment



High power Mono Perc up to 600W

- Up to 21.2% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection



High reliability

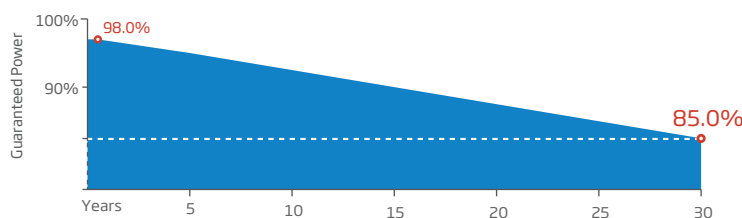
- Minimized micro-cracks with innovative non-destructive cutting technology
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load



High energy yield

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
- The unique design provides optimized energy production under inter-row shading conditions
- Lower temperature coefficient (-0.34%) and operating temperature
- Up to 25% additional power gain from back side depending on albedo

Trina Solar's Vertex Bifacial Dual Glass Performance Warranty



Comprehensive Products and System Certificates



IEC61215/IEC61730/IEC61701/IEC62716/UL61730

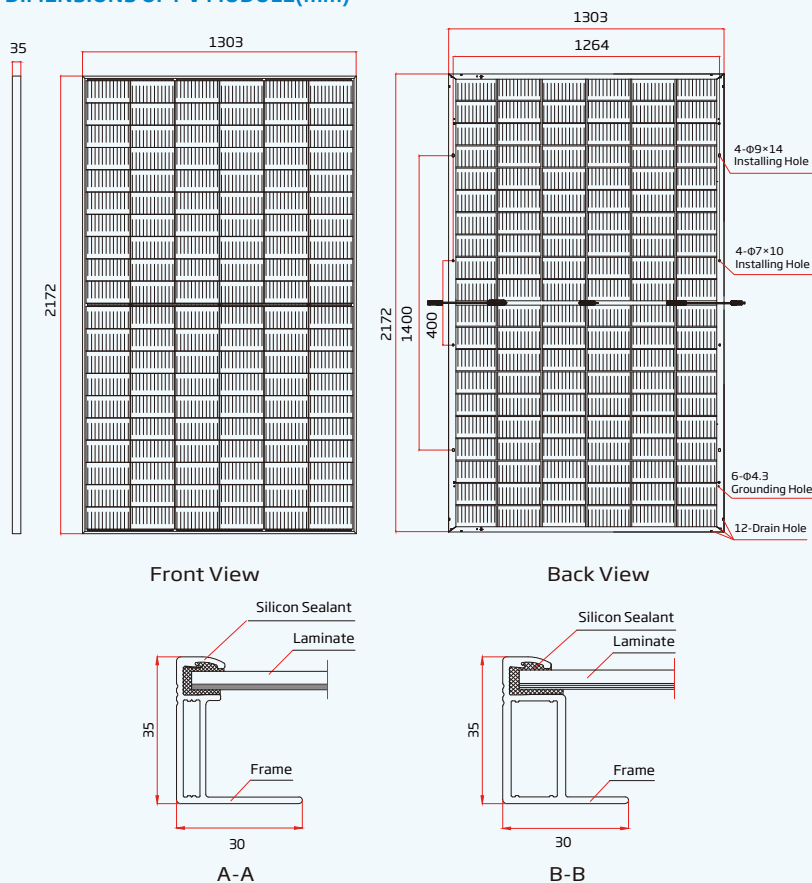
ISO 9001: Quality Management System

ISO 14001: Environmental Management System

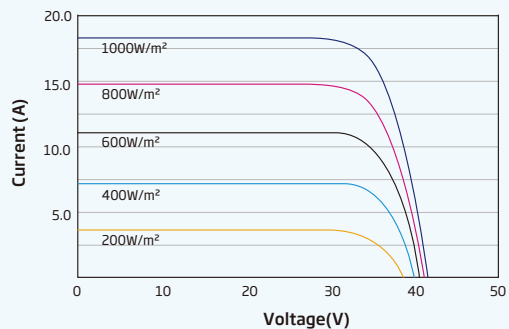
ISO14064: Greenhouse Gases Emissions Verification

ISO45001: Occupational Health and Safety Management System

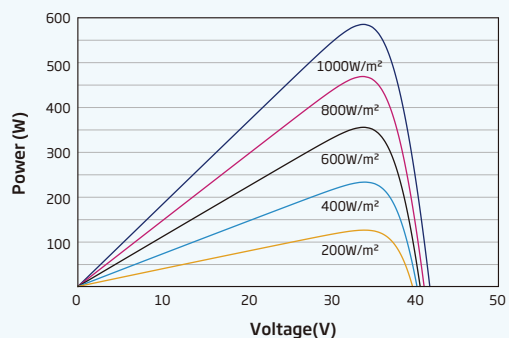
DIMENSIONS OF PV MODULE(mm)



I-V CURVES OF PV MODULE(590 W)



P-V CURVES OF PV MODULE(590 W)



ELECTRICAL DATA (STC) - TSM-XXXDEG20C.20(XXX=580-600)

Peak Power Watts-P _{MAX} (Wp)*	580	585	590	595	600
Binning Tolerance-P _{MAX} (W)			0 ~ +5		
Maximum Power Voltage-V _{MPP} (V)	33.8	34.0	34.2	34.4	34.6
Maximum Power Current-I _{MPP} (A)	17.16	17.21	17.25	17.30	17.34
Open Circuit Voltage-V _{OC} (V)	40.9	41.1	41.3	41.5	41.7
Short Circuit Current-I _{SC} (A)	18.21	18.26	18.31	18.36	18.42
Module Efficiency η_m (%)	20.5	20.7	20.8	21.0	21.2

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

Electrical characteristics with different power bin (reference to 10% Irradiance ratio)

Total Equivalent power -P _{MAX} (Wp)	621	626	631	637	642
Maximum Power Voltage-V _{MPP} (V)	33.8	34.0	34.2	34.4	34.6
Maximum Power Current-I _{MPP} (A)	18.36	18.41	18.46	18.51	18.55
Open Circuit Voltage-V _{OC} (V)	40.9	41.1	41.3	41.5	41.7
Short Circuit Current-I _{SC} (A)	19.48	19.54	19.59	19.65	19.71
Irradiance ratio (rear/front)			10%		

Power Bifaciality: 70±5%.

ELECTRICAL DATA (NOCT)

Maximum Power-P _{MAX} (Wp)	439	443	447	451	454
Maximum Power Voltage-V _{MPP} (V)	31.5	31.7	31.9	32.0	32.2
Maximum Power Current-I _{MPP} (A)	13.93	13.97	14.01	14.06	14.10
Open Circuit Voltage-V _{OC} (V)	38.5	38.7	38.9	39.1	39.3
Short Circuit Current-I _{SC} (A)	14.68	14.72	14.76	14.80	14.84

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

MECHANICAL DATA

Solar Cells	Monocrystalline
No. of cells	120 cells
Module Dimensions	2172×1303×35 mm (85.51×51.30×1.38 inches)
Weight	35.3 kg (77.8 lb)
Front Glass	2.0 mm (0.08 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	EVA/POE
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)
Frame	35mm(1.38 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²), Portrait: 280/280 mm(11.02/11.02 inches) Landscape: 1400/1400 mm(55.12/55.12 inches) or customized
Connector	Staubli MC4 EVO2 / TS4

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of P _{MAX}	-0.34%/°C
Temperature Coefficient of V _{OC}	-0.25%/°C
Temperature Coefficient of I _{SC}	0.04%/°C

MAXIMUM RATINGS

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

WARRANTY

12 year Product Workmanship Warranty
30 year Power Warranty
2% first year degradation
0.45% Annual Power Attenuation

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 25/36 pieces
Modules per 40' container: 549 pieces