

Vertex

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

PRODUCT: TSM-DEG20C.20

PRODUCT RANGE: 580-600W

600W

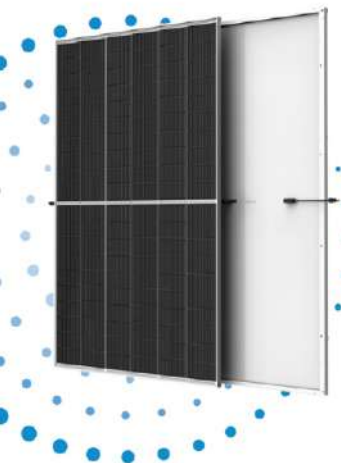
MAXIMUM POWER OUTPUT

0~+5W

POSITIVE POWER TOLERANCE

21.6%

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 up to 600W

- Up to 21.6% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection



High reliability

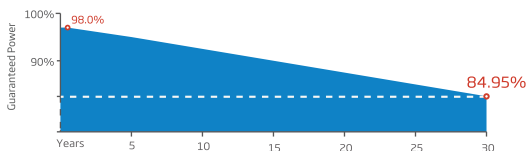
- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive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



High energy yield

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party 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



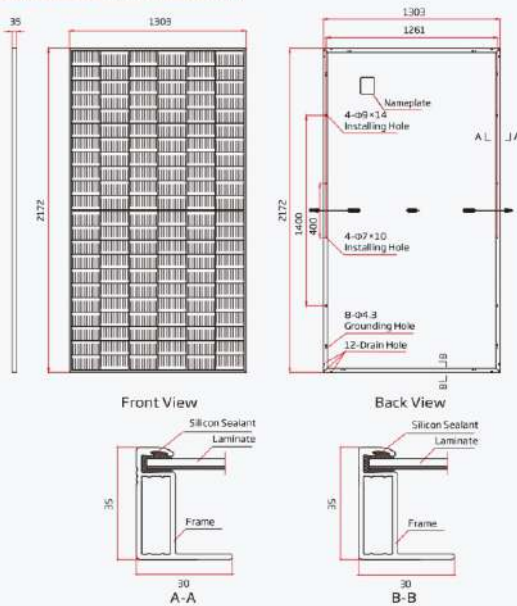
Comprehensive Products and System Certificates



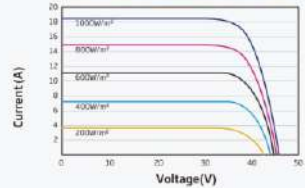
IEC61215/IEC61730/IEC61701/IEC62716/UL61730
 ISO 9001: Quality Management System
 ISO 14001: Environmental Management System
 ISO14064: Greenhouse Gases Emissions Verification
 ISO45001: Occupational Health and Safety Management System



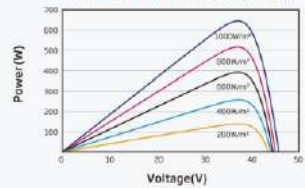
DIMENSIONS OF PV MODULE(mm)



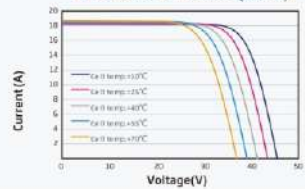
I-V CURVES OF PV MODULE(650 W)



P-V CURVES OF PV MODULE(650W)



I-V CURVES OF PV MODULE(650 W)



ELECTRICAL DATA (STC)

Peak Power Watts- P_{MAX} (Wp)*	580	585	590	595	600
Power 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	2172×1303×33 mm (85.51×51.30×1.30 inches)
Weight	34.9 kg (76.9 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	33 mm (1.30 inches) Anodized Aluminium Alloy
J-Box	IP6B 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	MCA EVO2 / TS4*

*Please refer to regional datasheet for specified connector.

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: 26/39 pieces
Modules per 40ft container: 585 pieces