Vertex

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

PRODUCT: TSM-XXXDEG20C.20

PRODUCT RANGE: 580-605W

605W	0~+5W	21.4%
MAXIMUM POWER OUTPUT	BINNING TOLERANCE	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 605W

- Up to 21.4% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection

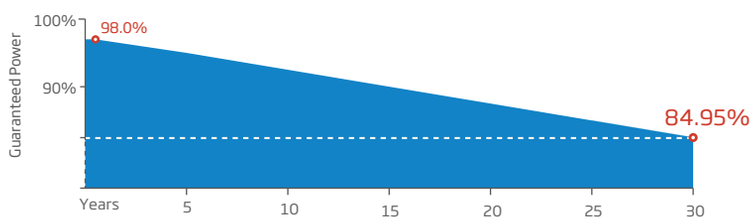
High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control and fire class rating C
- 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

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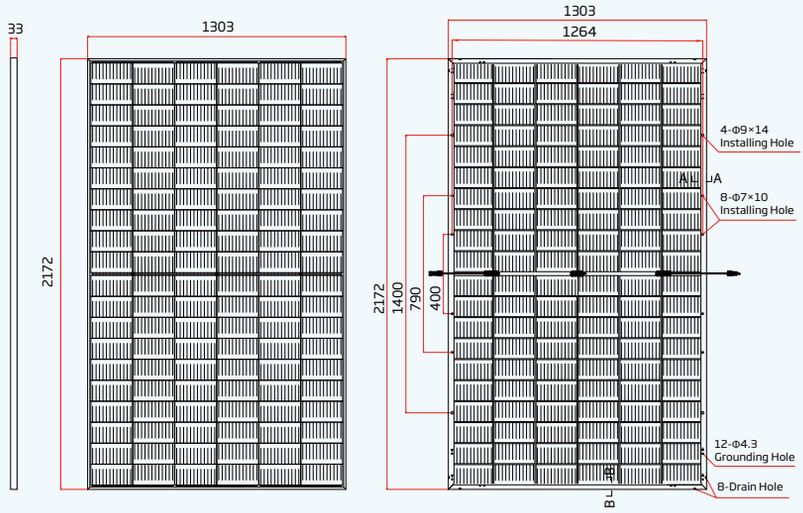
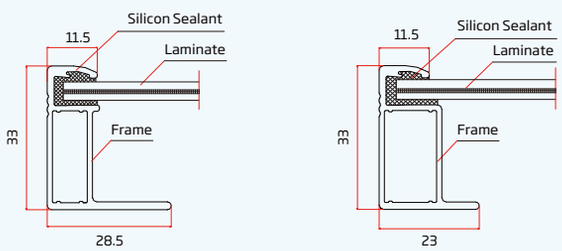
DIMENSIONS OF PV MODULE(mm)

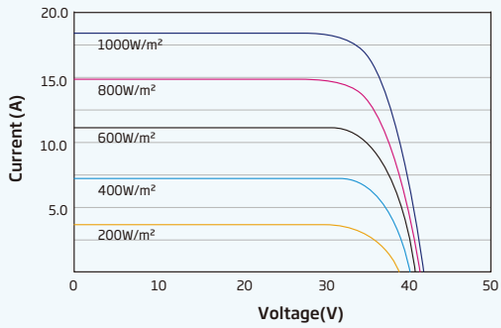


Front View

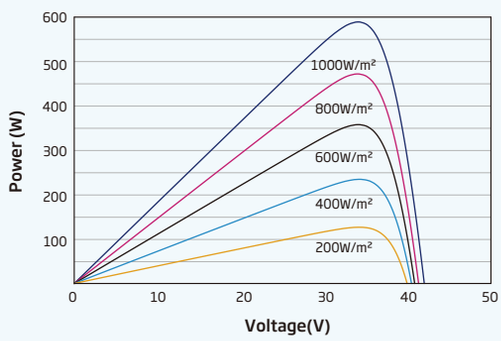
Back View



I-V CURVES OF PV MODULE(595 W)



P-V CURVES OF PV MODULE(595 W)



ELECTRICAL DATA (STC) TSM-XXXDEG20C.20(XXX=580-605)

Peak Power Watts-PMAX (Wp)*	580	585	590	595	600	605
Binning Tolerance-PMAX (W)				0 ~ +5		
Maximum Power Voltage-VMPP (V)	33.8	34.0	34.2	34.4	34.6	34.8
Maximum Power Current-IMPP (A)	17.16	17.21	17.25	17.30	17.34	17.39
Open Circuit Voltage-VOC (V)	40.9	41.1	41.3	41.5	41.7	41.9
Short Circuit Current-ISC (A)	18.21	18.26	18.31	18.36	18.42	18.48
Module Efficiency η m (%)	20.5	20.7	20.8	21.0	21.2	21.4

STC: Irrdiance 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 -PMAX (Wp)	621	626	631	637	642	647
Maximum Power Voltage-VMPP (V)	33.8	34.0	34.2	34.4	34.6	34.8
Maximum Power Current-IMPP (A)	18.36	18.41	18.46	18.51	18.55	18.61
Open Circuit Voltage-VOC (V)	40.9	41.1	41.3	41.5	41.7	41.9
Short Circuit Current-ISC (A)	19.48	19.54	19.59	19.65	19.71	19.77
Irradiance ratio (rear/front)				10%		

Power Bifaciality:70±5%.

ELECTRICAL DATA (NOCT)

Maximum Power-PMAX (Wp)	439	443	447	451	454	458
Maximum Power Voltage-VMPP (V)	31.5	31.7	31.9	32.0	32.2	32.4
Maximum Power Current-IMPP (A)	13.93	13.97	14.01	14.06	14.10	14.14
Open Circuit Voltage-VOC (V)	38.5	38.7	38.9	39.1	39.3	39.5
Short Circuit Current-ISC (A)	14.68	14.72	14.76	14.80	14.84	14.89

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	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	Staubli MC4 EVO2 / Trina Solar TS4 Plus / Trina Solar TS4

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of PMAX	- 0.34%/°C
Temperature Coefficient of VOC	- 0.25%/°C
Temperature Coefficient of ISC	0.04%/°C

MAXIMUMRATINGS

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 CONFIGUREATION

Modules per box: 26/39 pieces

Modules per 40' container: 585 pieces

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

Version number: TSM_EN_2022_Aus_C
Country of Origin: China

www.trinasolar.com