

DUAL GLASS MONOCRYSTALLINE MODULE

PRODUCT WARRANTY

30 POWER Years WARRANT

PRODUCT: TSM-XXXNEG9.28

Solutions

PRODUCT RANGE: 400-425W

21.9%

MAXIMUM EFFICIENCY

425W MAXIMUM POWER OUTPUT

0~+5W

BINNING TOLERANCE



Small in size, bigger on power

- Up to 425W, 21.9% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping, lower series resistance, improved current collection and enhanced reliability
- Reduce installation cost with higher power bin and efficiency
- Boost performance in warm weather with low temperature coefficient and operating temperature

Dual-glass Design, more secure and sustainable

- Upgraded dual glass of Vertex S, less prone to micro-cracks and scratches on the back during installation
- Double-glass + innovative non-destructive cutting for improved mechanical resistance and strength

• Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas and fire class rating A or C

Ultra-low Degradation, longer warranty, higher output

- First-year degradation 1% and annual degradation at 0.4%
- 25 years product warranty and 30 years power warranty

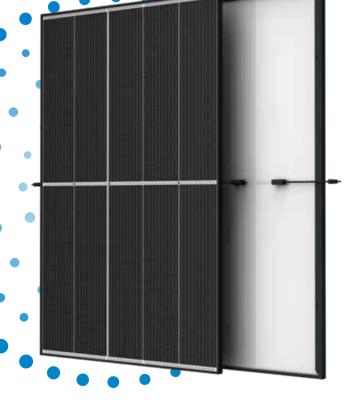
Universal solution for residential and C&I rooftops

- Easy for integration, designed for compatibility with existing mainstream inverters and diverse mounting systems
- Perfect size and low weight for handling and installation
- Most valuable solution on low load capacity rooftops (weight similar to backsheet version)
- Mechanical performance up to 5400 Pa positive load and 4000 Pa negative load

Trina Solar's Dual Glass Performance Warranty

100% 90% 90% Years 5 10 15 20 25 30





Comprehensive Products and System Certificates



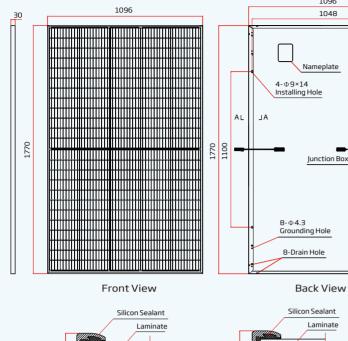
ISO 9001: Quality Management System ISO 14001: Environmental Management System ISO14064: Greenhouse Gases Emissions Verification ISO45001: Occupational Health and Safety Management System

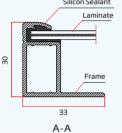
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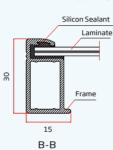
<u>A</u>

Vertex S+ Dual Glass MONOCRYSTALLINE MODULE

DIMENSIONS OF PV MODULE(mm)





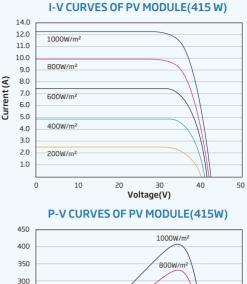


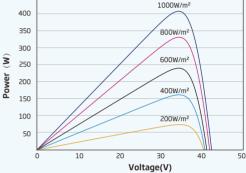
1096

1048

Nameplate

Junction Box





1770×1096×30 mm (69.06×43.15×1.18 inches)

1.6mm(0.06 inches), Heat Strengthened Glass

30mm (0.06 inches) Anodized Aluminium Alloy, Black

Photovoltaic Technology Cable 4.0mm² (0.006 inches²),

PACKAGING CONFIGUREATION Modules per box: 36 pieces

Modules per 40' container: 936 pieces

-40~+85°C

1500V DC (IEC) 25A

1.6 mm (0.06 inches), High Transmission, AR Coated Heat Strengthened Glass

ELECTRICAL DATA (STC) TSM-XXXNEG9.28(XXX=400-425)

Peak Power Watts-PMAX (Wp)*	400	405	410	415	420	425
Binning Tolerance-PMAX (W)	0~+5					
Maximum Power Voltage-V _{MPP} (V)	35.1	35.4	35.7	36.0	36.3	36.6
Maximum Power Current-Impp (A)	11.41	11.44	11.48	11.52	11.57	11.61
Open Circuit Voltage-Voc (V)	41.9	42.2	42.4	42.7	43.1	43.4
Short Circuit Current-Isc (A)	12.16	12.20	12.23	12.27	12.33	12.37
Module Efficiency ŋ m (%)	20.6	20.9	21.1	21.4	21.7	21.9
STC: Irrdiance 1000W/m2, Cell Temperature 25°C, Air I	Mass AM1.5. *I	Measuring toler	ance: ±3%.			
ELECTRICAL DATA (NOCT)						
Maximum Power-PMAX (Wp)	305	308	312	316	320	324

32.8

9.29

39.7

9.80

33.1

9.32

40.0

9.83

33.3

9.36

40.2

9.86

33.6

9.40

33.9

9.45

	Portrait: 280/280 mm(11.02/11.02 inches) Length can be customized				
Connector	Staubli MC4 EVO2 / Trina TS4				
TEMPERATURE RATINGS		MAXIMUMRATINGS			
NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)	Operational Temperature			
Temperature Coefficient of PMAX	- 0.30%/°C	Maximum System Voltage			
Temperature Coefficient of Voc	- 0.25%/°C	Max Series Fuse Rating			
Temperature Coefficient of Isc	0.04%/°C				

Monocrystalline

21.5 kg (47.4lb)

120 cells

EVA/POF

IP 68 rated

WARRANTY

MECHANICAL DATA Solar Cells

Module Dimensions Weight

No. of cells

Front Glass Encapsulant material

Back Glass

Frame

J-Box

Cables

25 year Product Workmanship Warranty
30 year Power Warranty
1% first year degradation
0.4% Annual Power Attenuation
Please refer to product warranty for details)

9.48

40.5 40.8 41.1 9.94 9.89 9.97

34.2

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



Maximum Power Voltage-VMPP (V)

Maximum Power Current-Impp (A)

Open Circuit Voltage-Voc (V)

Short Circuit Current-Isc (A)

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT. © 2022 Trina Solar Co., Ltd. All rights reserved. Specifications included in this datasheet are subject to change without notice. Version number: TSM_EN_2022_Aus_A www.trinasolar.com Country of Origin: China