



BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

PRODUCT: TSM-NEG9RC.27

POWER RANGE: 410-435W

435W

MAXIMUM POWER OUTPUT

0~+5W

POSITIVE POWER TOLERANCE

21.8%

MAXIMUM EFFICIENCY



Small in size, bigger on power

- Up to 435W, 21.8% module efficiency with high density interconnect technology
- Reduce installation cost with higher power bin and efficiency
- Boost performance in warm weather with low temperature coefficient and operating temperature



Transparent Dual-glass Design

- Transparent design with aesthetics appearance
- Upgraded dual glass of Vertex S, less prone to micro-cracks and scratches on the back during installation.
- Excellent fire rating, weather resistance, salt spray, sand dust, ammonia performance which is fully applicable in coastal, high temperature, humidity area and harsh environment



Ultra-low Degradation, longer warranty, higher output

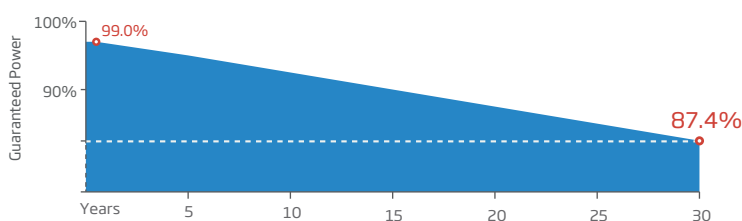
- First-year degradation 1% and annual degradation at 0.4%
- Up to 25 years product warranty and 30 years power warranty



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 Vertex Bifacial Dual Glass Performance Warranty



Comprehensive Products and System Certificates



IEC61215/IEC61730/IEC61701/IEC62716/UL61730

ISO 9001: Quality Management System

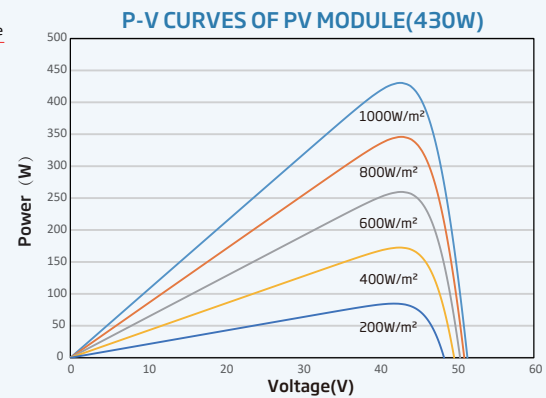
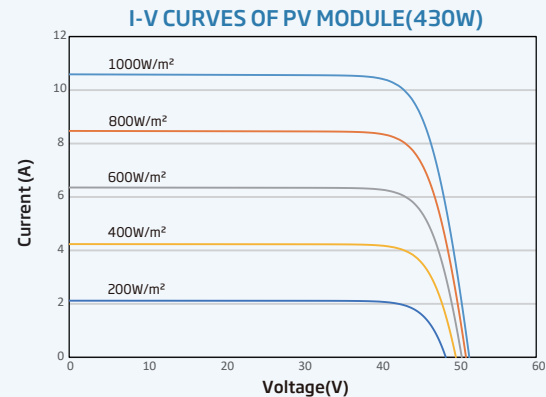
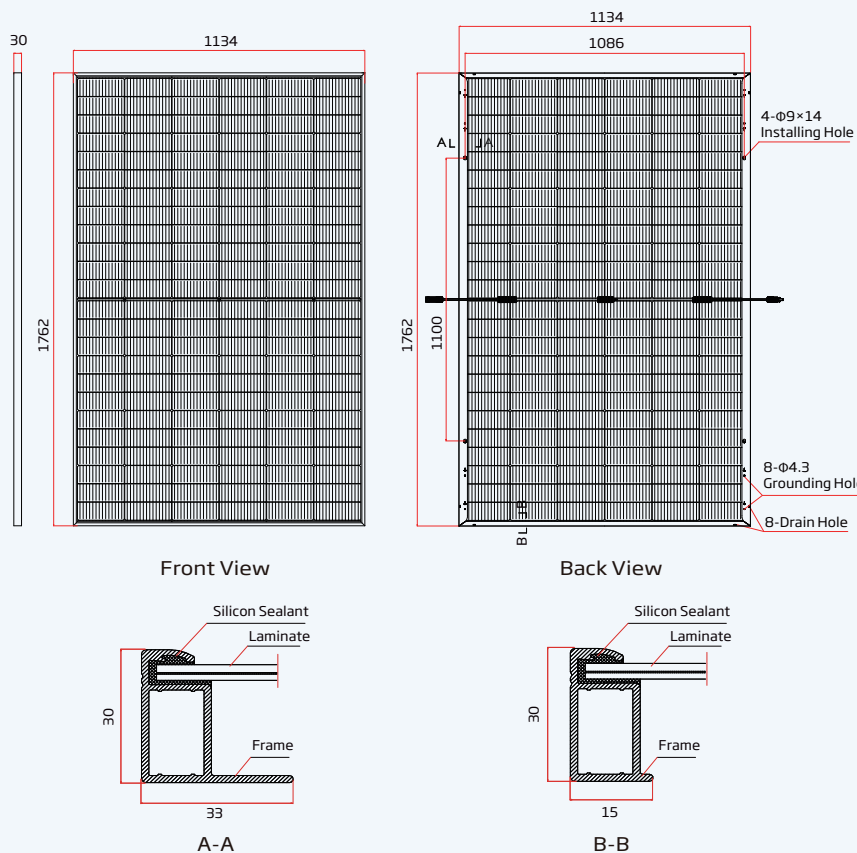
ISO 14001: Environmental Management System

ISO14064: Greenhouse Gases Emissions Verification

ISO45001: Occupational Health and Safety Management System



DIMENSIONS OF PV MODULE(mm)



ELECTRICAL DATA (STC)

Peak Power Watts-P _{MAX} (Wp)*	415	420	425	430	435
Power Tolerance-P _{MAX} (W)	0 ~ +5				
Maximum Power Voltage-V _{MPP} (V)	42.1	42.5	42.9	43.2	43.6
Maximum Power Current-I _{MPP} (A)	9.86	9.89	9.92	9.96	9.99
Open Circuit Voltage-V _{OC} (V)	50.1	50.5	50.9	51.4	51.8
Short Circuit Current-I _{SC} (A)	10.50	10.53	10.56	10.59	10.64
Module Efficiency η_m (%)	20.8	21.0	21.3	21.5	21.8

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)	448	454	459	464	470
Maximum Power Voltage-V _{MPP} (V)	42.1	42.5	42.9	43.2	43.6
Maximum Power Current-I _{MPP} (A)	10.65	10.68	10.71	10.76	10.79
Open Circuit Voltage-V _{OC} (V)	50.1	50.5	50.9	51.4	51.8
Short Circuit Current-I _{SC} (A)	11.34	11.37	11.40	11.44	11.49
Irradiance ratio (rear/front)	10%				

Power Bifaciality:80±5%.

ELECTRICAL DATA (NOCT)

Maximum Power-P _{MAX} (Wp)	316	320	324	328	332
Maximum Power Voltage-V _{MPP} (V)	39.3	39.7	40.0	40.4	40.7
Maximum Power Current-I _{MPP} (A)	8.03	8.07	8.09	8.11	8.15
Open Circuit Voltage-V _{OC} (V)	47.5	47.8	48.2	48.7	49.1
Short Circuit Current-I _{SC} (A)	8.46	8.49	8.51	8.53	8.57

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

MECHANICAL DATA

Solar Cells	Monocrystalline
No. of cells	144cells
Module Dimensions	1762×1134×30 mm (69.06×43.15×1.18 inches)
Weight	21.1kg (46.5lb)
Front Glass	1.6 mm (0.06 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	EVA/POE
Back Glass	1.6 mm (0.06 inches), High Transmission, Heat Strengthened Glass
Frame	30mm (1.18 inches) Anodized Aluminium Alloy, Black
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	MC4 EV02 / 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}	- 0.30%/°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	25A

WARRANTY

15 year Product Workmanship Warranty
30 year Power Warranty
1% first year degradation
0.4% Annual Power Attenuation

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 36 pieces
Modules per 40' container: 936 pieces