



**BACKSHEET MONOCRYSTALLINE MODULE**

PRODUCT: TSM-DE19R

POWER RANGE: 565-585W

**585W**

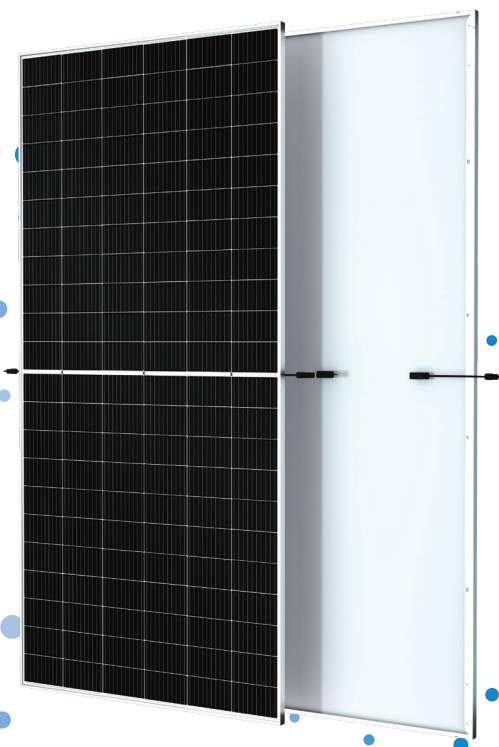
MAXIMUM POWER OUTPUT

**0~+5W**

POSITIVE POWER TOLERANCE

**21.7%**

MAXIMUM EFFICIENCY



**High customer value**

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



**High power up to 585W**

- Up to 21.7% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection



**High reliability**

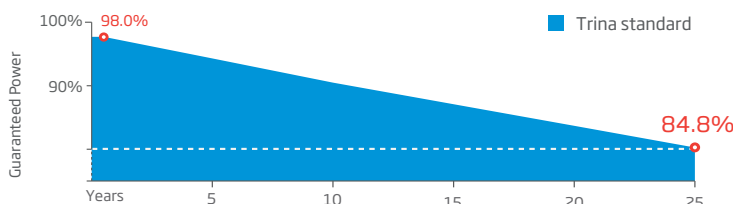
- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load



**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

**Trina Solar's Backsheet Performance Warranty**



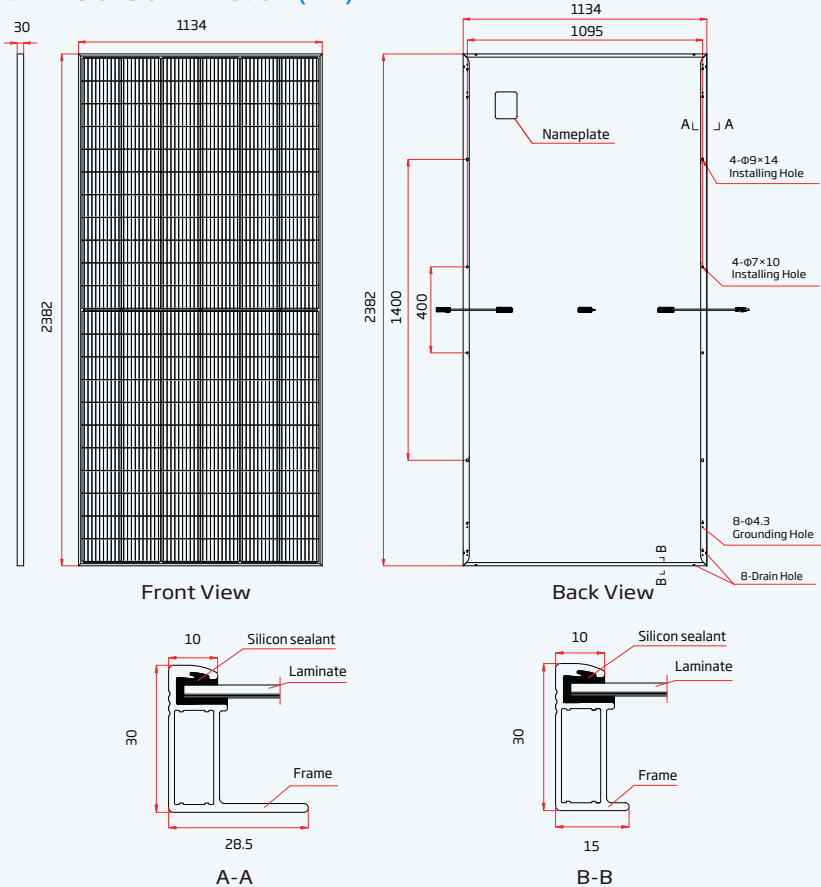
**Comprehensive Products and System Certificates**



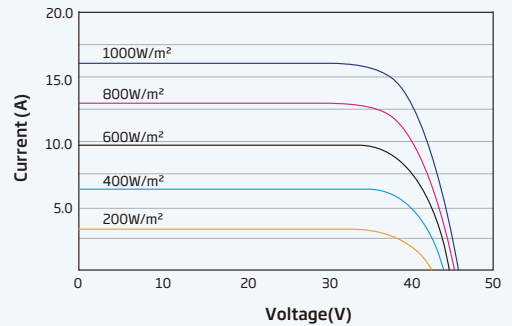
IEC61215/IEC61730/IEC61701/IEC62716  
 ISO 9001: Quality Management System  
 ISO 14001: Environmental Management System  
 ISO14064: Greenhouse Gases Emissions Verification  
 ISO45001: Occupational Health and Safety Management System



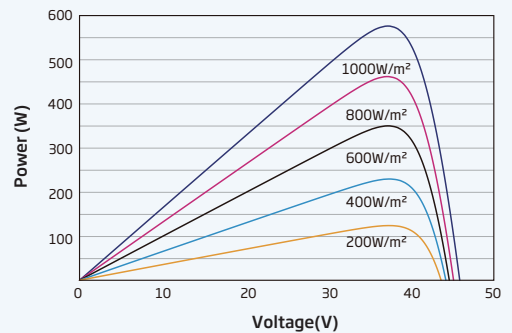
### DIMENSIONS OF PV MODULE(mm)



### I-V CURVES OF PV MODULE(575W)



### P-V CURVES OF PV MODULE(575W)



### ELECTRICAL DATA (STC)

Parameter	565	570	575	580	585
Peak Power Watts- $P_{MAX}$ (Wp)*	565	570	575	580	585
Power Tolerance- $P_{MAX}$ (W)	0 ~ +5				
Maximum Power Voltage- $V_{MPP}$ (V)	38.3	38.5	38.8	39.0	39.3
Maximum Power Current- $I_{MPP}$ (A)	14.76	14.79	14.83	14.86	14.90
Open Circuit Voltage- $V_{OC}$ (V)	45.6	45.8	46.1	46.3	46.6
Short Circuit Current- $I_{SC}$ (A)	15.81	15.85	15.90	15.94	15.99
Module Efficiency $\eta_m$ (%)	20.9	21.1	21.3	21.5	21.7

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5. \*Measuring tolerance:  $\pm$ 3%.

### ELECTRICAL DATA (NOCT)

Parameter	428	431	435	439	443
Maximum Power- $P_{MAX}$ (Wp)	428	431	435	439	443
Maximum Power Voltage- $V_{MPP}$ (V)	35.3	35.5	35.8	35.9	36.2
Maximum Power Current- $I_{MPP}$ (A)	12.10	12.13	12.17	12.20	12.24
Open Circuit Voltage- $V_{OC}$ (V)	42.9	43.1	43.4	43.6	43.9
Short Circuit Current- $I_{SC}$ (A)	12.74	12.77	12.81	12.84	12.88

NOCT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1m/s.

### MECHANICAL DATA

Solar Cells	Monocrystalline
No. of cells	132 cells
Module Dimensions	2382 $\times$ 1134 $\times$ 30 mm (93.78 $\times$ 44.65 $\times$ 1.18 inches)
Weight	28.1kg (61.9 lb)
Glass	3.2 mm (0.13 inches), High Transmission, Tempered Glass
Encapsulant material	EVA/POE
Backsheet	White
Frame	30mm(1.18 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm <sup>2</sup> (0.006 inches <sup>2</sup> ), Portrait: 350/280 mm(13.78/11.02 inches) Length can be customized
Connector	MC4 EVO2 / TS4 Plus/ TS4*

\*Please refer to regional datasheet for specified connector.

### TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43°C ( $\pm$ 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)
Max Series Fuse Rating	30A

### WARRANTY

12 year Product Workmanship Warranty  
25 year Power Warranty  
2% first year degradation  
0.55% Annual Power Attenuation

(Please refer to product warranty for details)

### PACKAGING CONFIGURATION

Modules per box: 36 pieces  
Modules per 40' container: 720 pieces