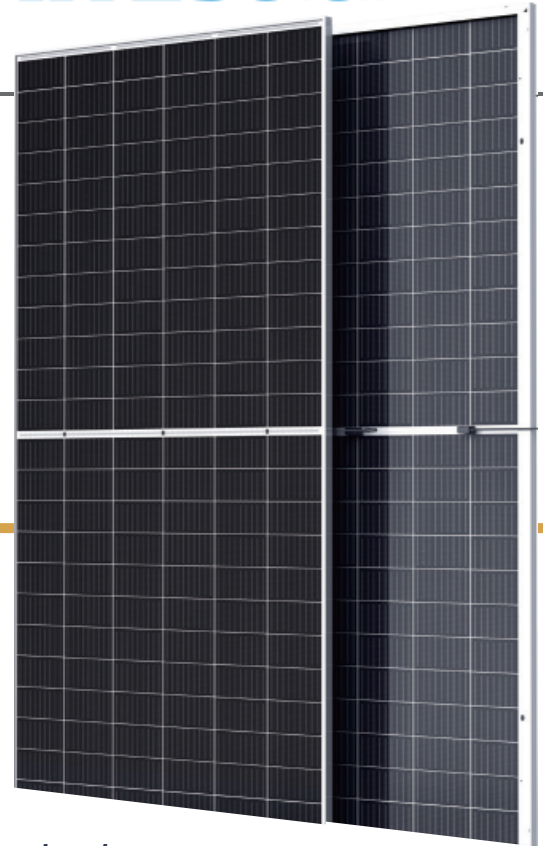


THE

DUOMAX TWIN

BIFACIAL DUAL GLASS 144 CELL MULTI BUSBAR MODULE



144-Cell
MONOCRYSTALLINE MODULE

390-415W
POWER OUTPUT RANGE

20.5%
MAXIMUM EFFICIENCY

0~+5W
POSITIVE POWER TOLERANCE

PRODUCTS
TSM-DEG15MC.20(II)

POWER RANGE
390-415W



High power output

- Up to 415W front power and 20.5% module efficiency with half-cut and MBB (Multi Busbar) technology enabling higher BOS savings
- Lower resistance of half-cut cells ensures higher power



Certified to perform in highly challenging environments

- High PID resistance through cell process and module material control
- Resistant to salt, acid, sand, and ammonia
- Proven to be reliable in high temperature and humidity areas
- Certified to the best fire class A
- Minimizes micro-crack and snail trails
- Certified to 5400 Pa positive load and 2400 Pa negative load



High energy generation

- Up to 25% additional power gain from back side, depending on the albedo
- Excellent 3rd party validated IAM and low light performance with cell process and module material optimization
- Low temp coefficient (-0.35%) and NMOT increases energy production
- Higher power from same installation footprint as standard modules
- Better anti-shading performance and lower operating temperature



Easy to install

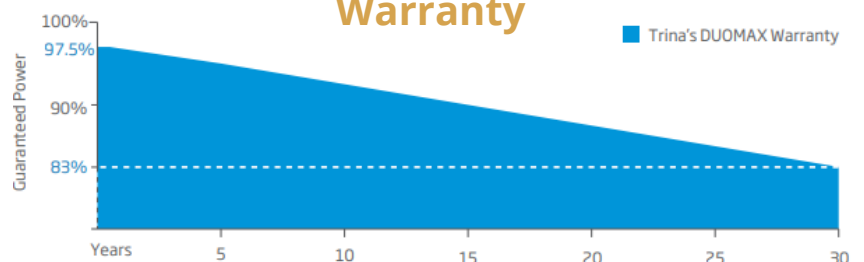
- Frame design makes module compatible with all racking and installation methods
- Deployable for ground-mounted utility, carports, and agricultural projects
- Safe and easy to transport, handle, and install like normal framed modules

Comprehensive Products and System Certificates

UL 61730 IEC61215/IEC61730/IEC61701/IEC62716
 ISO 9001: Quality Management System
 ISO 14001: Environmental Management System
 ISO14064: Greenhouse Gases Emissions Verification
 OHSAS 18001: Occupation Health and Safety Management System

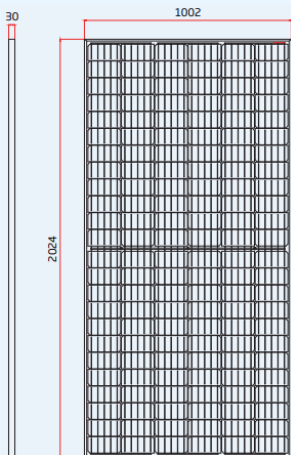


Trina Solar's DUOMAX Performance Warranty

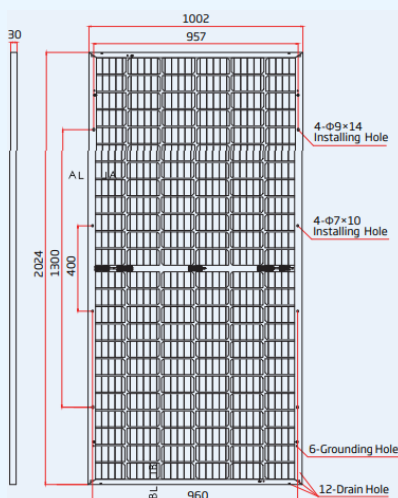


From the 2nd year to the 30th year, the average annual power decline will be no more than 0.5%.

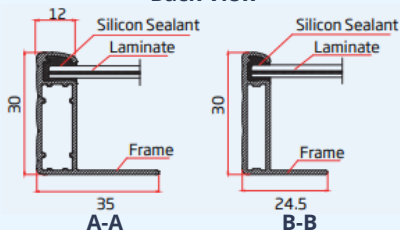
DIMENSIONS OF PV MODULE(mm)



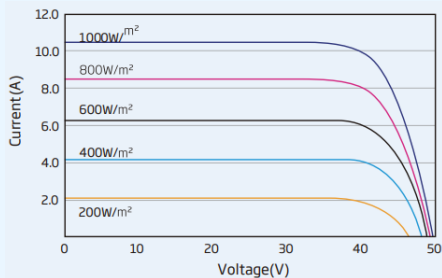
Front View



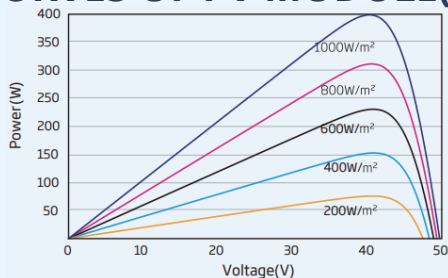
Back View



I-V CURVES OF PV MODULE(400W)



P-V CURVES OF PV MODULE(400W)



ELECTRICAL DATA (STC)

Peak Power Watts-PMAX (Wp)*	390	395	400	405	410	415
Power Output Tolerance-PMAX (W)	0 ~ +5					
Maximum Power Voltage-VMPP (V)	40.2	40.5	40.8	41.1	41.4	41.5
Maximum Power Current-IMPP (A)	9.71	9.76	9.81	9.86	9.91	10.02
Open Circuit Voltage-VOC (V)	48.5	48.7	48.9	49.1	49.3	49.4
Short Circuit Current-ISC (A)	10.25	10.29	10.33	10.37	10.41	10.52
Module Efficiency η m (%)	19.2	19.5	19.7	20.0	20.2	20.5

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5. *Measurement tolerance: ±3%.

ELECTRICAL DATA (NMOT)

Maximum Power-PMAX (Wp)	295	299	302	306	310	315
Maximum Power Voltage-VMPP (V)	37.7	38.0	38.3	38.6	38.9	39.0
Maximum Power Current-I MPP (A)	7.82	7.86	7.90	7.93	7.97	8.05
Open Circuit Voltage-VOC (V)	45.7	45.9	46.1	46.3	46.5	46.7
Short Circuit Current-ISC (A)	8.26	8.29	8.33	8.36	8.39	8.47

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

Electrical characteristics with different rear side power gains (referenced specifically to 405 Wp front)**

Maximum Power-PMAX (Wp)	425	446	466	486	506
Maximum Power Voltage-VMPP (V)	41.1	41.1	41.1	41.1	41.1
Maximum Power Current-I MPP (A)	10.35	10.85	11.34	11.83	12.33
Open Circuit Voltage-VOC (V)	49.2	49.3	49.4	49.5	49.6
Short Circuit Current-ISC (A)	10.89	11.41	11.93	12.44	12.96
Pmax gain	5%	10%	15%	20%	25%

Power Bifaciality: 70±5%.

MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	144 cells (6 × 24)
Module Dimensions	2024 × 1002 × 30 mm (79.69 × 39.45 × 1.18 inches)
Weight	26.0 kg (57.3 lb)
Glass	2.0 mm (0.08 inches), High Transmission AR Coated Heat Strengthened Glass
Encapsulant Material	POE/EVA
Back Glass	2.0 mm (0.08 inches) Heat Strengthened Glass (White Grid Glass)
Frame	30mm (1.18 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm ² (0.006 inches ²) Portrait: 280/280 mm (11.02/11.02 inches) Landscape: 1900/1900 mm (74.80/74.80 inches)
Connector	Trina TS4/MC4

TEMPERATURE RATINGS

NMOT	41°C (±3°C)
Temperature Coefficient of PMAX	- 0.35%/°C
Temperature Coefficient of VOC	- 0.25%/°C
Temperature Coefficient of ISC	0.04%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC) 1500V DC (UL)
Max Series Fuse Rating	20A

WARRANTY

12 year Product Workmanship Warranty
30 year Linear Power Warranty

PACKAGING CONFIGURATION

Modules per box: 35 pieces
Modules per 40' container: 665 pieces
Pallet dimensions (L x W x H): 2060 x 1120 x 1178 mm
Pallet weight: 973kg (2,145lb)