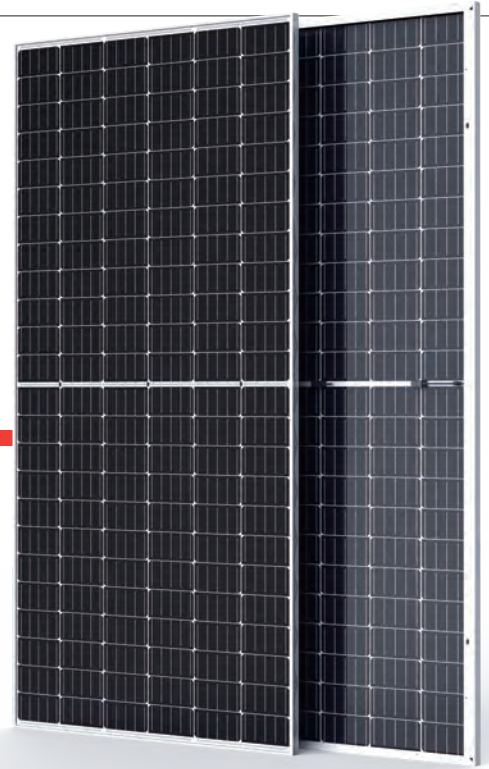


THE DUOMAX twin

BIFACIAL DUAL GLASS 144 HALF-CELL MODULE



144-Cell
MONOCRYSTALLINE MODULE

375-405W
POWER OUTPUT RANGE

19.7%
MAXIMUM EFFICIENCY

0~+5W
POSITIVE POWER TOLERANCE

PRODUCTS | POWER RANGE
TSM-DEG15HC.20(II) | 375-405W

Founded in 1997, Trina Solar is the world's leading total solutions provider for solar energy. With local presence around the globe, Trina Solar is able to provide exceptional service to each customer in each market and deliver our innovative, reliable products with the backing of Trina as a strong, bankable brand. Trina Solar now distributes its PV products to over 100 countries all over the world. We are committed to building strategic, mutually beneficial collaborations with installers, developers, distributors and other partners in driving smart energy together.

Comprehensive Products And System Certificates

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



High power output

- Increased total power output through generation from front and back side
- Backside power gain up to 25% depending on albedo
- Unique J-box design and installation method to avoid shading on the back side



Low LCOE

- Maximize limited space, savings in BOS and labour cost
- Higher power from same installation footprint as standard modules



Wide application

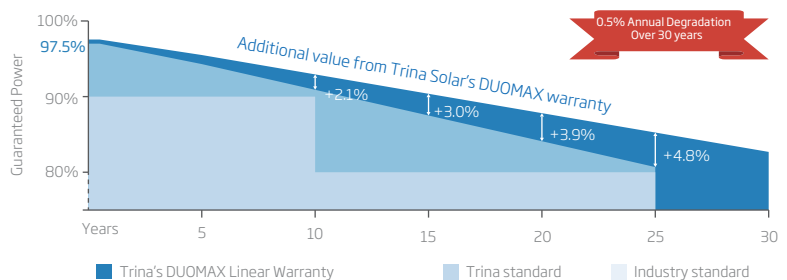
- Deployable for ground mounted utility, carports, and agricultural projects
- Special application like sound barriers on expressways
- Compatible with major tracker systems



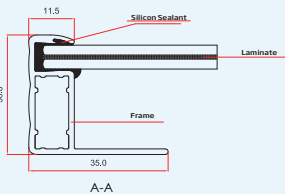
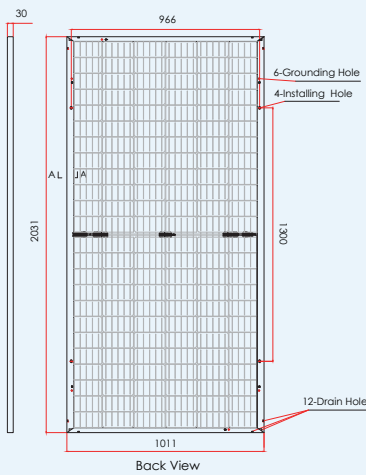
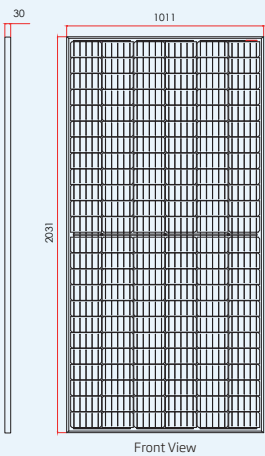
Certified to perform in the most challenging environmental conditions

- Resistant to sand, acid, and alkali
- 2400 Pa negative load
- 2400 Pa positive load
- 2400/2400 is the measured load, and the safety factor is 1.5x

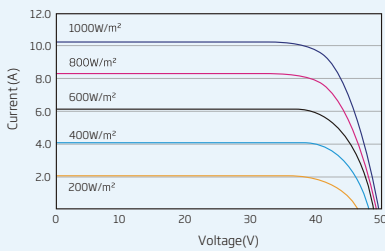
Trina Solar's DUOMAX Linear Performance Warranty



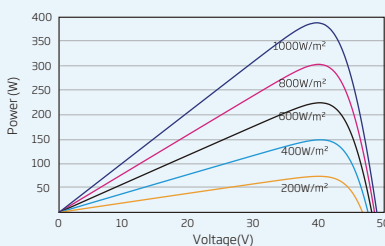
DIMENSIONS OF PV MODULE (mm)



I-V CURVES OF PV MODULE(390W)



P-V CURVES OF PV MODULE(390W)



ELECTRICAL DATA (STC)

Peak Power Watts- P_{MAX} (W_p)*	375	380	385	390	395	400	405
Power Output Tolerance- P_{MAX} (W)				0 ~ +5			
Maximum Power Voltage- V_{MPP} (V)	40.2	40.3	40.4	40.5	40.6	40.7	40.8
Maximum Power Current- I_{MPP} (A)	9.33	9.43	9.53	9.63	9.73	9.83	9.93
Open Circuit Voltage- V_{OC} (V)	49.1	49.2	49.4	49.6	49.7	49.9	50.1
Short Circuit Current- I_{SC} (A)	9.89	9.99	10.09	10.19	10.29	10.39	10.49
Module Efficiency η m(%)	18.3	18.5	18.7	19.0	19.2	19.5	19.7

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

BI-FACIAL OUTPUT - Backside Power Gain**

10%	Power Output (W)	413	418	424	429	435	440	446
	Module Efficiency (%)	20.1	20.4	20.6	20.9	21.2	21.4	21.7
15%	Power Output (W)	431	437	443	449	454	460	466
	Module Efficiency (%)	21.0	21.3	21.6	21.9	22.1	22.4	22.7
25%	Power Output (W)	469	475	481	488	494	500	506
	Module Efficiency (%)	22.8	23.1	23.4	23.8	24.1	24.4	24.6

ELECTRICAL DATA (NMOT)

Maximum Power- P_{MAX} (W_p)	283	287	290	294	298	302	306
Maximum Power Voltage- V_{MPP} (V)	37.6	37.8	38.0	38.2	38.4	38.6	38.8
Maximum Power Current- I_{MPP} (A)	7.50	7.57	7.64	7.71	7.78	7.85	7.92
Open Circuit Voltage- V_{OC} (V)	46.1	46.3	46.5	46.7	46.9	47.1	47.3
Short Circuit Current- I_{SC} (A)	7.98	8.06	8.14	8.22	8.30	8.38	8.46

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

MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	144 cells (6 × 24)
Module Dimensions	2031 × 1011 × 30 mm (79.96 × 39.80 × 1.18 inches),
Weight	31.4 kg (69.2 lb)
Front Glass	2.5 mm (0.10 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	POE/EVA
Back Glass	2.5 mm (0.10 inches), Heat Strengthened (White Grid Glass)
Frame	30 mm (1.18 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0 mm 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

TEMPERATURE RATINGS

NMOT (Nominal Module Operating Temperature)	41°C (±3°C)
Temperature Coefficient of P_{MAX}	-0.37%/°C
Temperature Coefficient of V_{OC}	-0.29%/°C
Temperature Coefficient of I_{SC}	0.05%/°C

(DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection)

MAXIMUM RATINGS

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

WARRANTY

10 year Product Workmanship Warranty

30 year Linear Power Warranty

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 32 pieces

Modules per 40' container: 704 pieces

** Back-side power gain varies depending upon the specific project albedo

