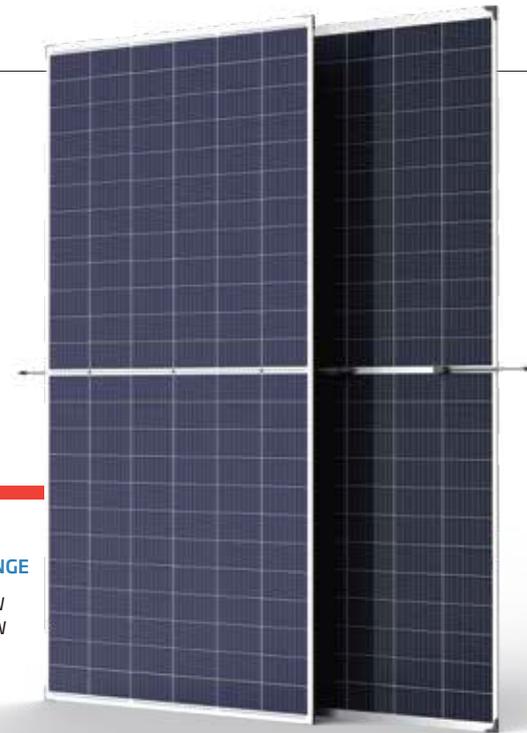


THE

# DUOMAX<sup>tw</sup>

## BIFACIAL DUAL GLASS 72 LAYOUT MODULE



### 72 LAYOUT MONOCRYSTALLINE MODULE

### 385-410W POWER OUTPUT RANGE

### 20.2% MAXIMUM EFFICIENCY

### 0~+5W POSITIVE POWER TOLERANCE

PRODUCTS	APPEARANCE	POWER RANGE
TSM-DEG15MC(II)	White	390-410W
TSM-DEG15MC.07(II)	Transparent	390-405W

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

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 mono perc

- Gain higher power using MBB and Half-cell technology
- Increased total power 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



#### Wide application

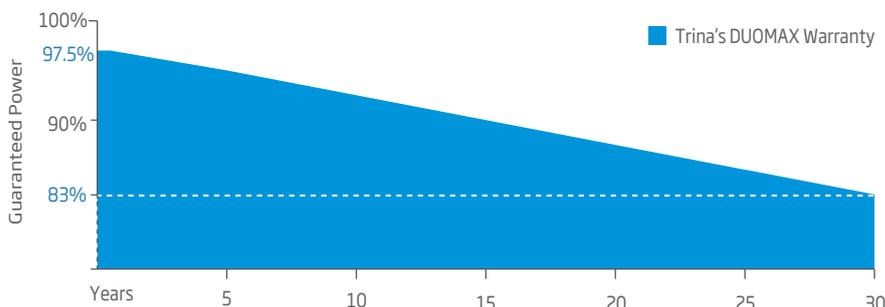
- Deployable for ground mounted utility, greenhouse and agricultural projects
- Special application like sound barriers on expressways
- Compatible with major tracker systems



#### Load conditions

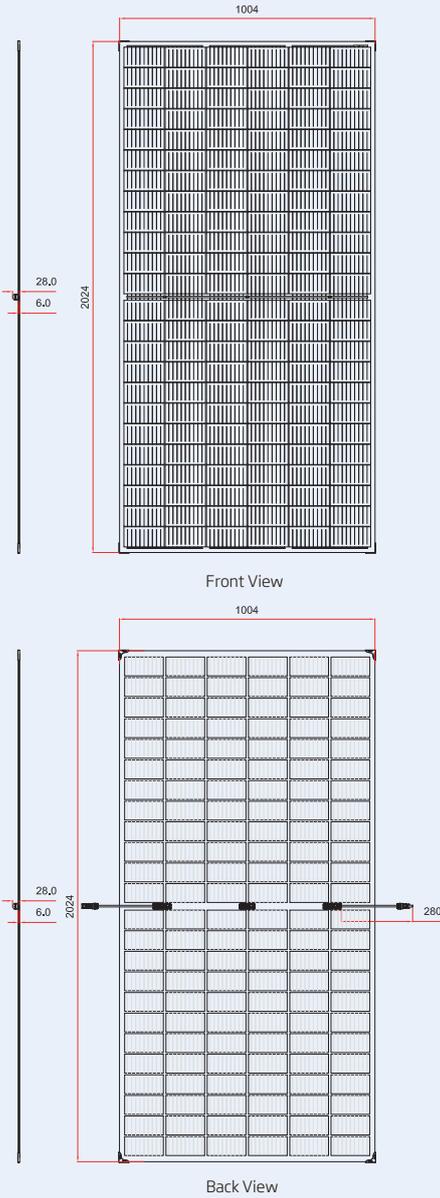
- 2400 Pa negative load
- 2400 Pa positive load (no back shading)
- \* 2400/2400 is the measured load, and the safety factor is 1.5 times

#### Trina Solar's DUOMAX Performance Warranty

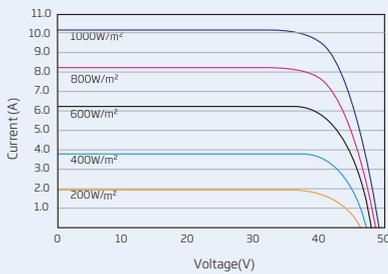


From the 2nd year to the 30th year, the average annual power decline will be no more than 0.5%.

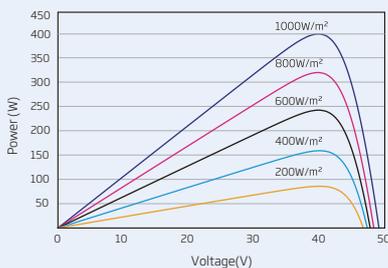
**DIMENSIONS OF PV MODULE(mm)**



**I-V CURVES OF PV MODULE(400 W)**



**P-V CURVES OF PV MODULE(400W)**



**ELECTRICAL DATA (STC)**

Peak Power Watts- $P_{MAX}$ (Wp)*	390	395	400	405	410
Power Output Tolerance- $P_{MAX}$ (W)	0 ~ +5				
Maximum Power Voltage- $V_{MPP}$ (V)	40.2	40.5	40.8	41.1	41.4
Maximum Power Current- $I_{MPP}$ (A)	9.71	9.76	9.81	9.86	9.91
Open Circuit Voltage- $V_{OC}$ (V)	48.5	48.7	48.9	49.1	49.3
Short Circuit Current- $I_{SC}$ (A)	10.25	10.29	10.33	10.37	10.41
Module Efficiency $\eta_m$ (%)	19.2	19.4	19.7	19.9	20.2

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

**Electrical characteristics with different rear side power gain (reference to 405 Wp front)**

Maximum Power- $P_{MAX}$ (Wp)	425	446	466	486	506
Maximum Power Voltage- $V_{MPP}$ (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- $V_{OC}$ (V)	49.2	49.3	49.4	49.5	49.6
Short Circuit Current- $I_{SC}$ (A)	10.89	11.41	11.93	12.44	12.96
Pmax gain	5%	10%	15%	20%	25%

Power Bifaciality: 70±5%.

**ELECTRICAL DATA (NMOT)**

Maximum Power- $P_{MAX}$ (Wp)	295	299	302	306	310
Maximum Power Voltage- $V_{MPP}$ (V)	37.7	38.0	38.3	38.6	38.9
Maximum Power Current- $I_{MPP}$ (A)	7.82	7.86	7.90	7.93	7.97
Open Circuit Voltage- $V_{OC}$ (V)	45.7	45.9	46.1	46.3	46.5
Short Circuit Current- $I_{SC}$ (A)	8.26	8.29	8.33	8.36	8.39

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

**MECHANICAL DATA**

Solar Cells	Monocrystalline
Cell Orientation	144 cells (6 × 24)
Module Dimensions	2024 × 1004 × 6 mm (79.69×39.53×0.24 inches)
Weight	29.2kg (64.4 lb)
Front Glass	2.5 mm (0.10 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	POE/EVA (transparent.07)
Back Glass	2.5 mm (0.10 inches), Heat Strengthened Glass (White Grid Glass)
Frame	Frameless
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm <sup>2</sup> (0.006 inches <sup>2</sup> ), Portrait: 280/280 mm(11.02/11.02 inches) Landscape: 1900/1900 mm(74.80/74.80inches)
Connector	MC4 EVO2 / TS4

**TEMPERATURE RATINGS**

NMOT(Nominal Module Operating Temperature)	41°C (±3°C)
Temperature Coefficient of $P_{MAX}$	- 0.35%/°C
Temperature Coefficient of $V_{OC}$	- 0.25%/°C
Temperature Coefficient of $I_{SC}$	0.04%/°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**

- 12 year Product Workmanship Warranty
- 30 year Linear Power Warranty

(Please refer to product warranty for details)

**PACKAGING CONFIGURATION**

- Modules per box: 33pieces
- Modules per 40' container: 726 pieces

