

# THE DUOMAX<sup>M</sup>

## HALF-CELL DUAL GLASS 72 LAYOUT MODULE



**72 LAYOUT**  
MONOCRYSTALLINE MODULE

**380-410W**  
POWER OUTPUT RANGE

**20.0%**  
MAXIMUM EFFICIENCY

**0~+5W**  
POSITIVE POWER TOLERANCE

PRODUCTS	POWER RANGE
TSM-DEG15H.20(II)	380-410W



### Increased value

- Reduce BOS cost with higher power bin and 1500V system voltage
- 30 year linear warranty
- 0.5% annual degradation
- Low thermal coefficients for greater energy production at higher temperature



### Half-cell design brings higher efficiency

- New cell string layout and split J-box location to reduce the energy loss caused by shading between modules
- Lower cell connection power losses due to half-cell layout (144 monocrystalline)
- Passivated Emitter and Rear Cell (PERC Technology)



### Highly reliable due to stringent quality control

- Over 30 in-house tests (UV, TC, HF etc)
- Increased module robustness to minimize micro-cracks
- PID resistant and free of snail trails
- 100% EL double inspection



### Certified to withstand the most challenging environmental conditions

- Resistant to sand, acid, alkaline
- 2400 Pa negative load
- 5400 Pa positive load
- \* 2400/5400 is the measured load, and the safety factor is 1.5 times

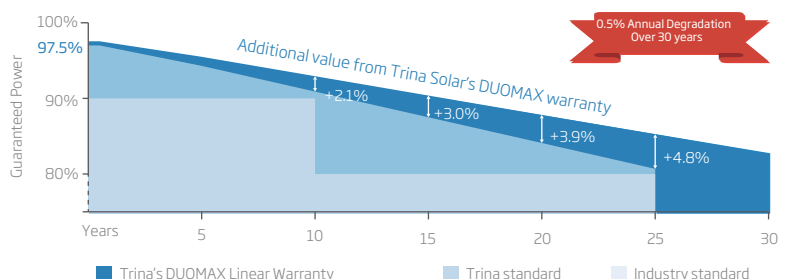
Founded in 1997, Trina Solar is the world's leading total solutions provider for solar energy. With local presence around the globe, Trina Solar is able to provide exceptional service to each customer in each market and deliver our innovative, reliable products with the backing of Trina as a strong, 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

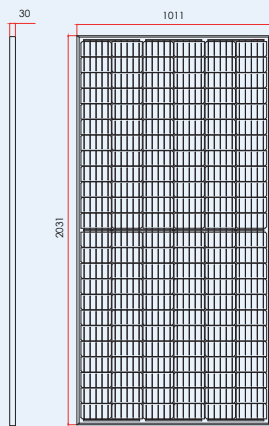
IEC61215/UL1703/IEC61730/IEC61701/IEC62716  
 ISO 9001: Quality Management System  
 ISO 14001: Environmental Management System  
 ISO14064: Greenhouse gases Emissions Verification  
 OHSAS 18001: Occupation Health and Safety Management System



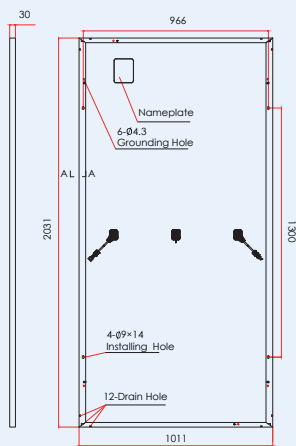
Trina Solar's DUOMAX Linear Performance Warranty



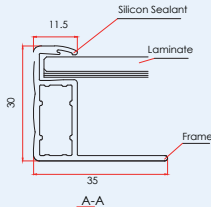
### DIMENSIONS OF PV MODULE(mm)



Front View

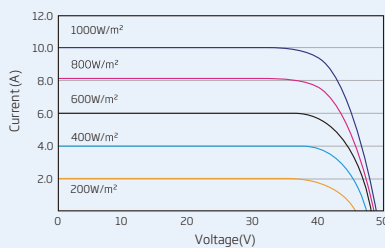


Back View

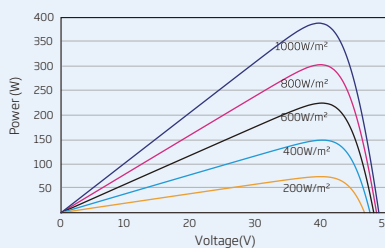


A-A

### I-V CURVES OF PV MODULE(390W)



### P-V CURVES OF PV MODULE(390W)



### ELECTRICAL DATA (STC)

Peak Power Watts- $P_{MAX}$ (Wp)*	380	385	390	395	400	405	410
Power Output Tolerance- $P_{MAX}$ (W)	0 ~ +5						
Maximum Power Voltage- $V_{MPP}$ (V)	39.6	40.1	40.5	40.8	41.1	41.4	41.7
Maximum Power Current- $I_{MPP}$ (A)	9.59	9.61	9.64	9.69	9.74	9.79	9.84
Open Circuit Voltage- $V_{OC}$ (V)	48.1	48.5	49.7	50.1	50.4	50.8	51.2
Short Circuit Current- $I_{SC}$ (A)	9.99	10.03	10.08	10.13	10.18	10.23	10.29
Module Efficiency $\eta_m$ (%)	18.5	18.7	19.0	19.2	19.5	19.7	20.0

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5.

\*Measurement tolerance:  $\pm 3\%$ .

### ELECTRICAL DATA (NOCT)

Maximum Power- $P_{MAX}$ (Wp)	287	291	295	298	302	306	310
Maximum Power Voltage- $V_{MPP}$ (V)	37.4	37.9	38.4	38.7	38.9	39.1	39.3
Maximum Power Current- $I_{MPP}$ (A)	7.66	7.67	7.68	7.71	7.76	7.81	7.86
Open Circuit Voltage- $V_{OC}$ (V)	44.4	45.6	46.8	47.2	47.4	47.6	47.8
Short Circuit Current- $I_{SC}$ (A)	8.05	8.09	8.13	8.17	8.21	8.25	8.29

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	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	EVA
Back Glass	2.5 mm (0.10 inches), Heat Strengthened Glass
Frame	30 mm (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: N 140mm/P 285mm((5.51/11.22inches) Landscape: N 1400 mm /P 1400 mm (55.12/55.12 inches)
Connector	MC4 EVO2/TS4

### TEMPERATURE RATINGS

NMOT (Nominal Module Operating Temperature)	41°C ( $\pm 3^\circ\text{C}$ )
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

