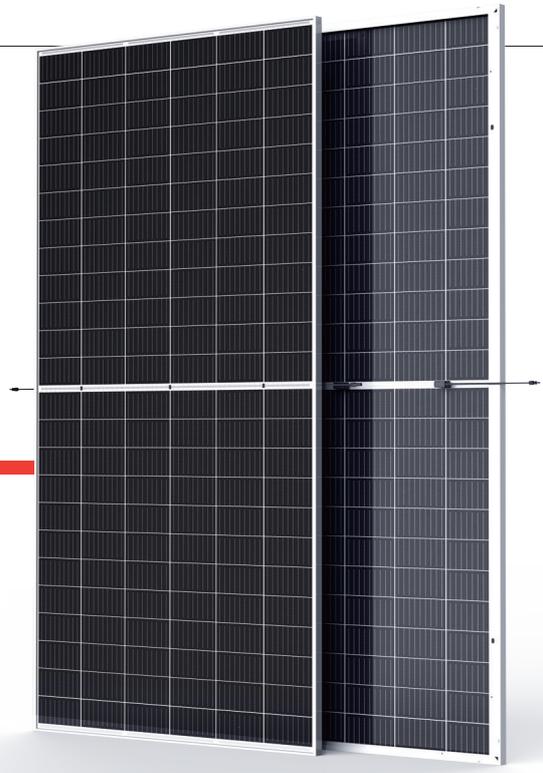


THE

DUOMAX^{tw}

BIFACIAL DUAL GLASS 72 LAYOUT MODULE



72 LAYOUT
MONOCRYSTALLINE MODULE

385-410W
POWER OUTPUT RANGE

20.0%
MAXIMUM EFFICIENCY

0~+5W
POSITIVE POWER TOLERANCE

PRODUCTS

TSM-DEG15MC.20(II)

POWER RANGE

385-410W

Founded in 1997, Trina Solar is the world's leading total solution 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

- 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



Low LCOE

- Maximize limited space, savings in BOS and labour cost



Wide application

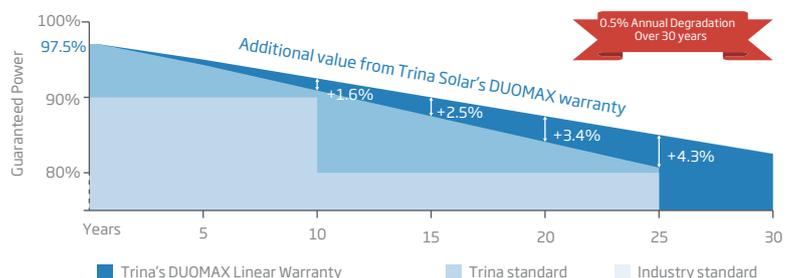
- Deployable for ground mounted utility, greenhouse and agricultural projects
- Special application like sound barriers on expressways
- Compatible with major tracker systems



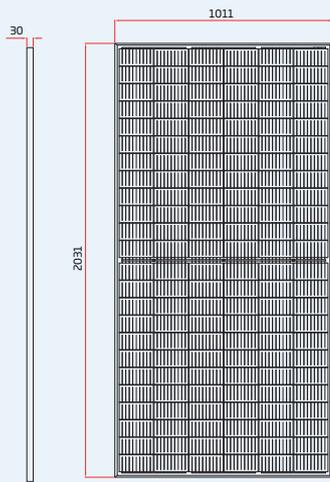
Certified to withstand the most challenging environmental conditions

- Resistant to sand, acid, alkaline
- 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

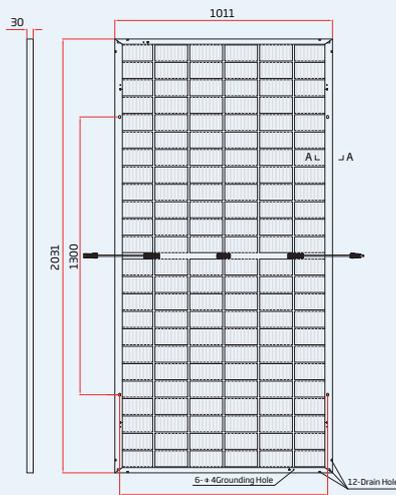
Trina Solar's DUOMAX Linear Performance Warranty



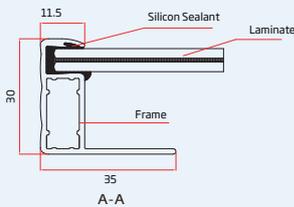
DIMENSIONS OF PV MODULE(mm)



Front View

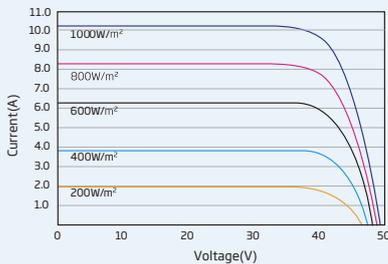


Back View

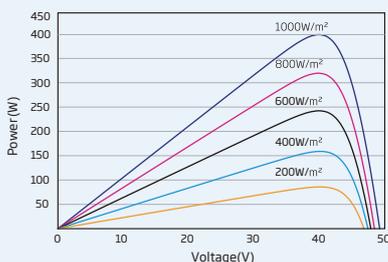


A-A

I-V CURVES OF PV MODULE(400 W)



P-V CURVES OF PV MODULE(400W)



ELECTRICAL DATA (STC)

Peak Power Watts- P_{MAX} (Wp)*	385	390	395	400	405	410
Power Output Tolerance- P_{MAX} (W)	0 ~ +5					
Maximum Power Voltage- V_{MPP} (V)	39.9	40.2	40.5	40.8	41.1	41.4
Maximum Power Current- I_{MPP} (A)	9.66	9.71	9.76	9.81	9.86	9.91
Open Circuit Voltage- V_{OC} (V)	48.3	48.5	48.7	48.9	49.1	49.3
Short Circuit Current- I_{SC} (A)	10.21	10.25	10.29	10.33	10.37	10.41
Module Efficiency η_m (%)	18.7	19.0	19.2	19.5	19.7	20.0

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

BI-FACIAL OUTPUT - Backside Power Gain

10%	Power Output(W)	424	429	435	440	446	451
	Module Efficiency(%)	20.6	20.9	21.2	21.4	21.7	22.0
15%	Power Output(W)	443	449	454	460	466	472
	Module Efficiency(%)	21.6	21.9	22.1	22.4	22.7	23.0
25%	Power Output(W)	481	488	494	500	506	513
	Module Efficiency(%)	23.4	23.8	24.1	24.4	24.6	25.0

ELECTRICAL DATA (NMOT)

Maximum Power- P_{MAX} (Wp)	290	294	298	302	305	309
Maximum Power Voltage- V_{MPP} (V)	37.5	37.7	38.0	38.2	38.5	38.8
Maximum Power Current- I_{MPP} (A)	7.77	7.81	7.85	7.89	7.92	7.97
Open Circuit Voltage- V_{OC} (V)	45.4	45.6	45.8	46.0	46.2	46.4
Short Circuit Current- I_{SC} (A)	8.24	8.27	8.30	8.33	8.36	8.39

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 × 30mm (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 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(74.80/74.80inches)
Connector	MC4 EVO2 / TS4*

*Please refer to regional datasheet for specified connector.

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: 32pieces
Modules per 40' container: 704 pieces