THE

TALLMAX Ⓜ

FRAMED 144 LAYOUT MODULE
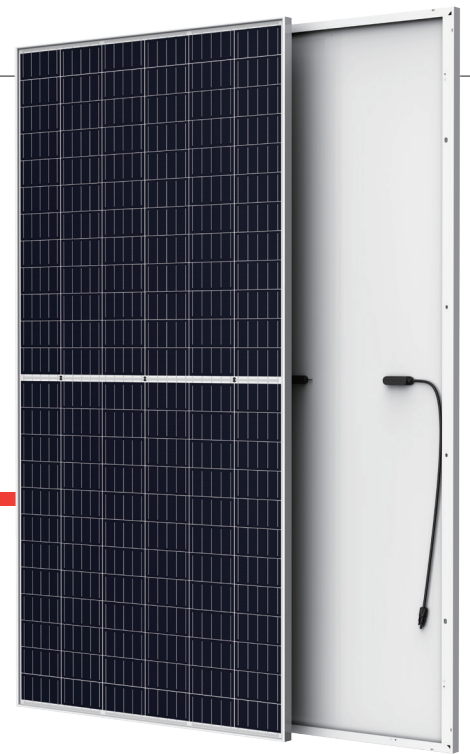
144 LAYOUT
MONOCRYSTALLINE MODULE

PRODUCTS	POWER RANGE
TSM-DE15H(II)	385-415W

385-415W
POWER OUTPUT RANGE

20.7%
MAXIMUM EFFICIENCY

0~+5W
POSITIVE POWER TOLERANCE

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/UL61730
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupation Health and Safety
              Management System

High power
- Up to 415W front power and 20.7% module efficiency with half-cut technology bringing more BOS savings
- Lower resistance of half-cut ensure high power

High reliability
- Ensured PID resistance through cell process and module material control
- Resistant to salt, acid and ammonia
- Mechanical performance: Up to 5400 Pa positive load and 2400 Pa negative load

High energy generation
- Excellent IAM and low light performance validated by 3rd party with cell process and module material optimization
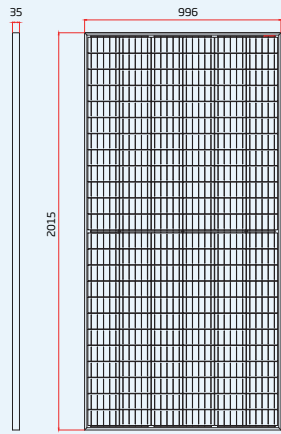- Better anti-shading performance and lower operating temperature

PERFORMANCE WARRANTY

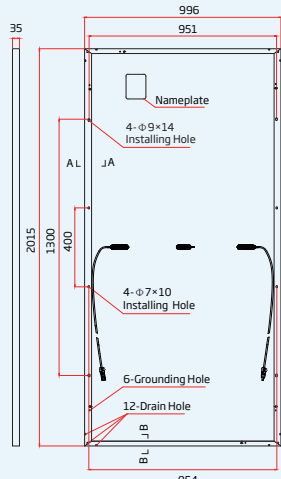### 12 Year Product Warranty · 25 Year Power Warranty

Guaranteed Power

100%
97.5%
90%
83.1%

Years   5   10   15   20   25

Trina standard
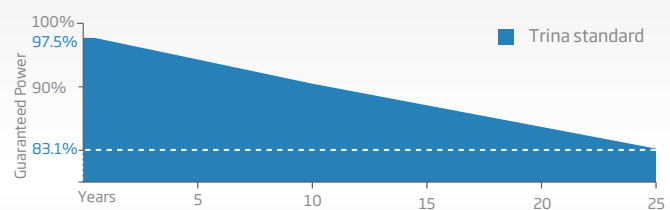
From the 2nd year to the 25th year, the average annual power decline will be no more than 0.6%.
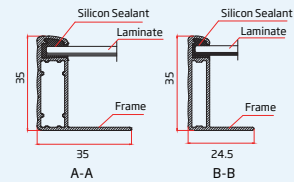
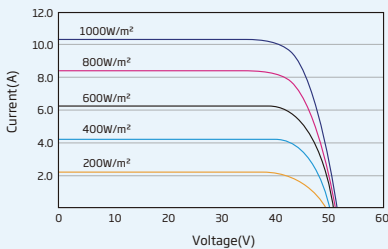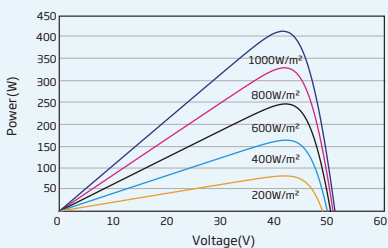**Trina**solar

DIMENSIONS OF PV MODULE(mm)

Front View

Back View

A-A B-B

I-V CURVES OF PV MODULE(405W)

P-V CURVES OF PV MODULE(405W)

ELECTRICAL DATA (STC)

Peak Power Watts-P$_{MAX}$ (Wp)*	390	395	400	405	410	415	420
Power Tolerance-P$_{MAX}$ (W)	0 ~ +5						
Maximum Power Voltage-V$_{MPP}$ (V)	40.5	40.8	41.1	41.4	41.7	42.0	42.3
Maximum Power Current-I$_{MPP}$ (A)	9.64	9.69	9.74	9.79	9.84	9.89	9.93
Open Circuit Voltage-V$_{OC}$ (V)	49.7	50.1	50.4	50.8	51.2	51.5	51.9
Short Circuit Current-I$_{SC}$ (A)	10.08	10.13	10.18	10.23	10.29	10.34	10.39
Module Efficiency η$_m$ (%)	19.4	19.7	19.9	20.2	20.4	20.7	20.7

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

ELECTRICAL DATA (NOCT)

Maximum Power-P$_{MAX}$ (Wp)	294	298	302	306	309	313	317
Maximum Power Voltage-V$_{MPP}$ (V)	38.4	38.7	39.0	39.3	39.5	39.8	40.1
Maximum Power Current-I$_{MPP}$ (A)	7.66	7.70	7.74	7.78	7.82	7.87	7.90
Open Circuit Voltage-V$_{OC}$ (V)	46.8	47.2	47.4	47.8	48.2	48.5	48.8
Short Circuit Current-I$_{SC}$ (A)	8.12	8.16	8.20	8.24	8.29	8.33	8.37

NOCT: 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	2015 × 996 × 35 mm (79.33× 39.21× 1.38 inches)
Weight	22.0 kg (48.5 lb)
Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	EVA/POE
Backsheet	White
Frame	35 mm (1.38 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²), Portrait: N 280mm/P 280mm(11.02/11.02inches) Landscape: N 1400 mm /P 1400 mm (55.12/55.12 inches)
Connector	MC4 EVO2 / TS4*

*Please refer to regional datasheet for specified connector.

TEMPERATURE RATINGS

NOCT(Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of P$_{MAX}$	- 0.34%/°C
Temperature Coefficient of V$_{OC}$	- 0.25%/°C
Temperature Coefficient of I$_{SC}$	0.04%/°C

MAXIMUM RATINGS

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

(Do not connect Fuse in Combiner Box with two or more strings in parallel connection)

WARRANTY

12 year Product Workmanship Warranty

25 year Power Warranty

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 31 pieces

Modules per 40' container: 682 pieces