



N-type i-TOPCon bifacial dual glass Monocrystalline module

PRODUCT: TSM-XXXNEG9M4C.26

POWER RANGE: 265-290W

290W

MAXIMUM POWER OUTPUT

0~+5W

BINNING TOLERANCE

17.7%

MAXIMUM EFFICIENCY



Our most versatile product

- 1500V IEC certified



Maximize Limited Space

- Up to 177W/m² power density



Highly reliable due to stringent quality control

- Rigorous in-house tests (TC, HF etc.)
- In-house testing goes well beyond certification requirements
- 100% EL double inspection
- Fire Class rating C

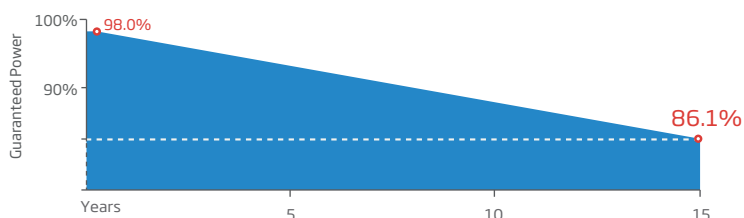


Certified to withstand the most challenging environmental conditions

- 2400 Pa negative load
- 5400 Pa positive load



Trina Solar's Bifacial Dual Glass Performance Warranty

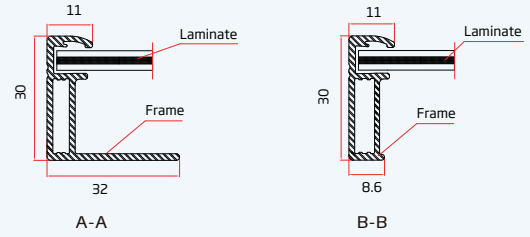
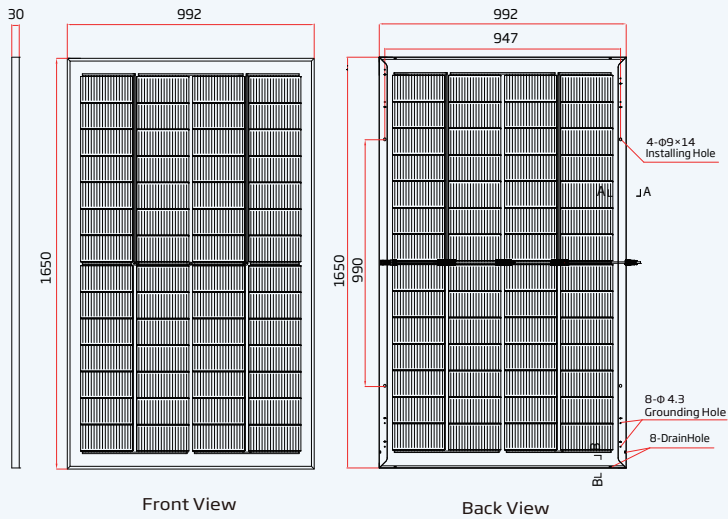


Comprehensive Products and System Certificates

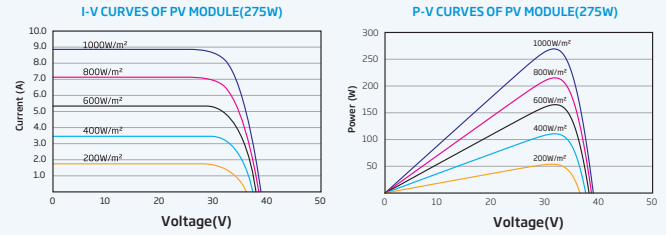


IEC61215/IEC61730
 ISO 9001: Quality Management System
 ISO 14001: Environmental Management System
 ISO14064: Greenhouse Gases Emissions Verification
 OHSAS 18001: Occupational Health and Safety Management System

DIMENSIONS OF PV MODULE(mm)



CURVES OF PV MODULE (Cell Temperature (25±2°C))



MECHANICAL DATA

Solar Cells	N-type i-TOPCon Monocrystalline
No. of cells	56 cells
Module Dimensions	1650×992×30 mm (64.96×39.06×1.18 inches))
Weight	21.0kg (46.30 lb)
Front Glass	2.0 mm (0.08 inches), AR Coated Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass

Frame	30mm (1.18 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²) Length can be customized
Connector	Stäubli MC4 EV02

ELECTRICAL DATA (STC & NOCT&BNPI) TSM-XXXNEG9M4C.26 (XXX=265-290)

Testing Condition	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI
Peak Power Watts- P_{MAX} (Wp)*	265	203	294	270	207	299	275	211	305	280	215	310	285	218	316	290	222	321
Binning Tolerance- P_{MAX} (W)	0 ~ +5																	
Maximum Power Voltage- V_{MPP}	31.8	30.3	31.8	32.2	30.7	32.2	32.6	31.1	32.6	33.0	31.6	33	33.4	31.9	33.4	33.8	32.1	33.8
Maximum Power Current- I_{MPP} (A)	8.34	6.70	9.23	8.39	6.73	9.29	8.44	6.77	9.35	8.49	6.79	9.40	8.54	6.84	9.45	8.58	6.90	9.51
Open Circuit Voltage- V_{OC} (V)	39.2	37.2	39.2	39.4	37.4	39.4	39.6	37.6	39.6	39.8	38.0	39.8	40.0	38.2	40.0	40.2	38.5	40.2
Short Circuit Current- I_{SC} (A)	8.83	7.13	9.78	8.85	7.14	9.81	8.87	7.15	9.83	8.89	7.17	9.85	8.94	7.22	9.91	9.02	7.29	9.99
Module Efficiency η_m (%)	16.2			16.5			16.8			17.1			17.4			17.7		

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5. NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s. BNPI: Irradiance at 1000W/m² + $\varphi \times 1.35W/m²$, Air Mass AM1.5, Temp 25°C *Measuring tolerance: ±3%.

Electrical characteristics with different power bin (reference to 5% & 10% backside power gain)

Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Total Equivalent power - P_{MAX} (Wp)	278	292	284	297	289	303	294	308	299	314	305	319	305	319
Maximum Power Voltage- V_{MPP} (V)	31.8	31.8	32.2	32.2	32.6	32.6	33.0	33.0	33.4	33.4	33.8	33.8	33.8	33.8
Maximum Power Current- I_{MPP} (A)	8.76	9.17	8.81	9.23	8.86	9.28	8.91	9.34	8.97	9.39	9.01	9.44	9.01	9.44
Open Circuit Voltage- V_{OC} (V)	39.2	39.2	39.4	39.4	39.6	39.6	39.8	39.8	40.0	40.0	40.2	40.2	40.2	40.2
Short Circuit Current- I_{SC} (A)	9.27	9.71	9.29	9.74	9.31	9.76	9.33	9.78	9.39	9.83	9.47	9.92	9.47	9.92

φP_{MAX} : 80%±5%; φV_{OC} : 100%±3%; φI_{SC} : 80%±5%

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of P_{MAX}	-0.29%/°C
Temperature Coefficient of V_{OC}	-0.24%/°C
Temperature Coefficient of I_{SC}	0.04%/°C

APPLICATION CONDITIONS

Operating Temperature	-40~+70 °C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	20A

WARRANTY

5 year Product Workmanship Warranty
15 year Power Warranty
2% first year degradation

0.85% Annual Power Attenuation

(Power degradation values above apply to frontside, refer to product warranty for power degradation for backside and other details)

PACKAGING CONFIGURATION

Modules per box: 36 pieces
Modules per 40' container: 1008 pieces