

THE Honey

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

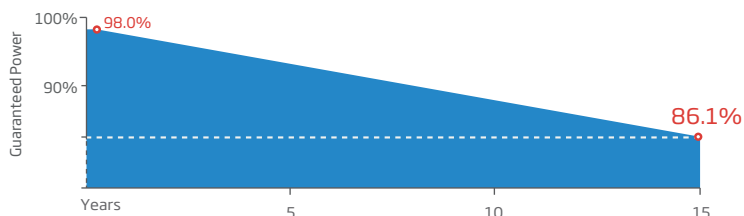


Certified to withstand the most challenging environmental conditions

- 2400 Pa negative load
- 5400 Pa positive load



Trina Solar's Bifacial Dual Glass Performance Warranty



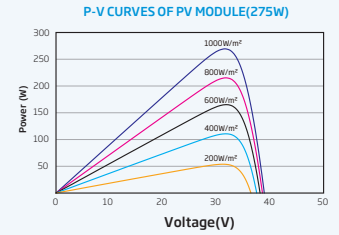
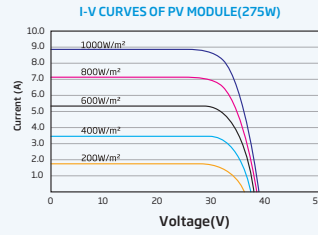
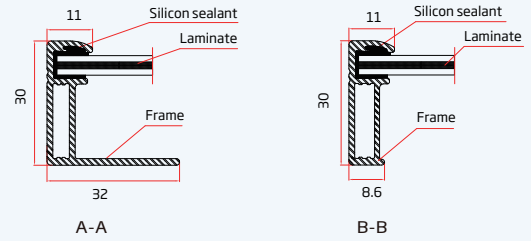
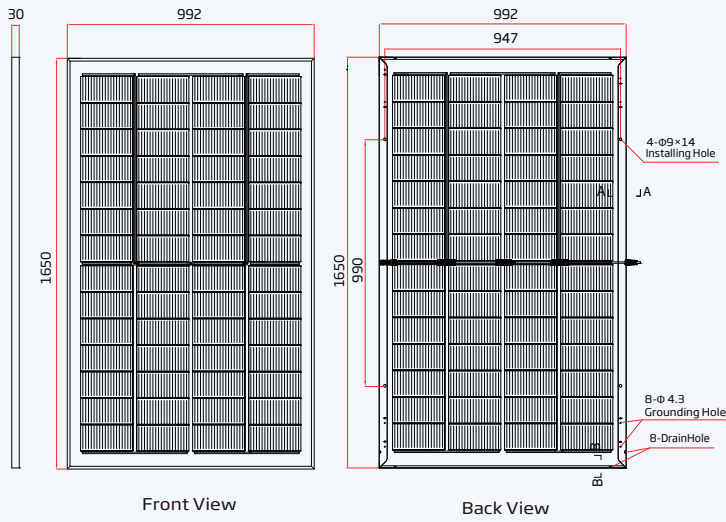
Comprehensive Products and System Certificates



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)



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 4.0mm ² (0.006 inches ²) 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 + $\varphi \times 135W/m^2$, 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 | | |
| 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 | | |
| 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 | | |
| 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 | | |
| 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 | | |

Power Bifaciality: 80±7%; φP_{max} : 80%±7%; φV_{oc} : 100%±3%; φI_{sc} : 80%±7%

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 |

MAXIMUM RATINGS

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

WARRANTY

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|-------------------------------------|
| 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

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