

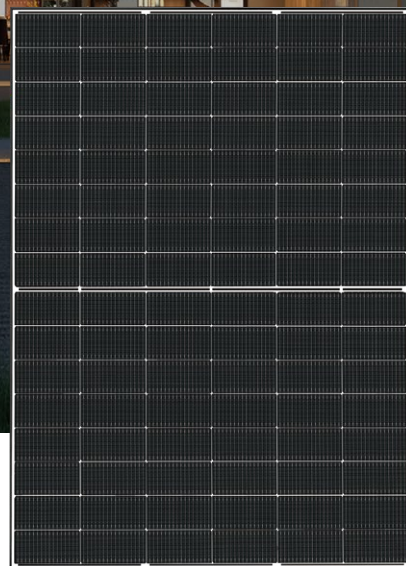
SG-48TW4D

445-465W

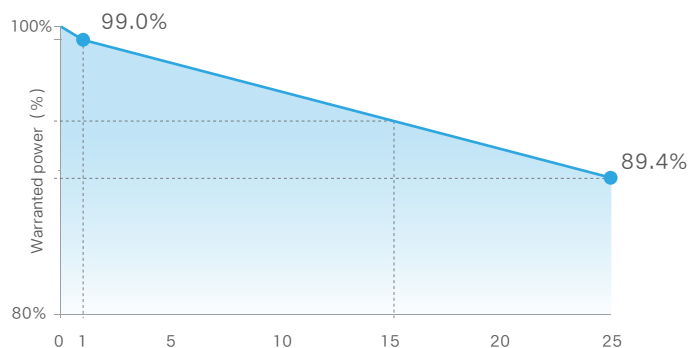
N-type TOPCon Solar Single-glass Module
Maximum Efficiency 23.3%

Quality Certification

- IEC61215:2021 / IEC61730:2023
- IEC61701 / IEC62716 / IEC60068 / IEC62804
- ISO9001:2015: Quality Management System
- ISO14001:2015: Environment Management System
- ISO45001:2018: Occupational health and safety management systems



Product Warranty



25 Year

Warranty for Materials and Processing

25 Year

Warranty for Extra Linear Power Output

First Year Power Degradation <1%

Year 2-25 Power Degradation <0.4%

Product Performance



Superior Low Irradiation Performance

Higher power output in the morning and evening, cloudy days, haze and other low-light scenarios



Smaller Size

A lightweight design for convenient transportation and installation



Lower LCOE

Effectively reduce system BOS costs and shorten the return on investment cycle



Superior Temperature Coefficient

Generating 1%-2% more power than P-type modules in high temperature regions



Anti-PID Guarantee

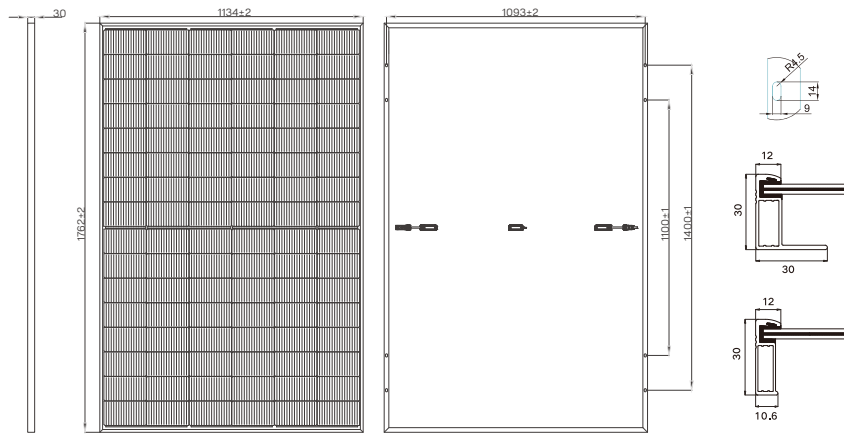
Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control



Superior Mechanical Load Capacity

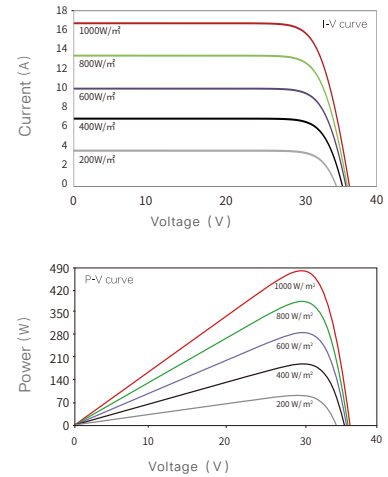
Heavy snow load up to 5400 Pa
 wind load up to 2400 Pa

Engineering Drawings



Unit: mm

I-V and P-V Curves



Specifications (STC)

| | | | | | |
|----------------------------------|-------|-------|------------------------|-------|-------------|
| Maximum Power Pmax (W) | 445 | 450 | 455 | 460 | 465 |
| Voltage at Maximum Power (Vmp/V) | 29.86 | 30.09 | 30.32 | 30.55 | 30.78 |
| Current at Maximum Power (Imp/A) | 14.91 | 14.96 | 15.01 | 15.06 | 15.11 |
| Open Circuit Voltage (Voc/V) | 35.86 | 36.06 | 36.26 | 36.46 | 36.66 |
| Short Circuit Current (Isc/A) | 15.66 | 15.71 | 15.76 | 15.81 | 15.86 |
| Module Efficiency (%) | 22.3 | 22.5 | 22.8 | 23.0 | 23.3 |
| Power Tolerance | 0~+3% | | Maximum System Voltage | | DC1500V |
| Maximum Series Fuse Rating | 30A | | Operating Temperature | | -40°C~+85°C |

STC: Irradiance 1000W/m², Cell Temperature 25°C, AM=1.5

Mechanical Characteristics

| | |
|------------------|---|
| Cell Type | N- type mono-crystalline |
| Cell Orientation | 96 (2 x 48) |
| Dimension | 1762 x 1134 x 30mm |
| Weight | 19.5kg |
| Glass | Single glass, 2.8mm coated tempered glass |
| Frame | Anodized aluminum alloy |
| Junction Box | IP68 rated |
| Output Cables | 4mm², (+): 1200mm, (-): 1200mm or customized length |
| Connector Type | MC4-EVO2A/others |
| Mechanical Load | 5400Pa (Front side) /2400Pa (Rear side) |

Temperature Characteristics

| | |
|----------------------------------|-----------|
| Temperature Coefficients of Pmax | -0.29%/°C |
| Temperature Coefficients of Voc | -0.25%/°C |
| Temperature Coefficients of Isc | 0.045%/°C |

Packaging Configuration

| | |
|----------------|---|
| Packing Detail | 36 pcs/pallets, 72 pcs/stack, 936 pcs/ 40'HQ container |
|----------------|---|