

SG-48TG4D-BX

455-480W

Maximum Efficiency **24.0%**

Smart Functions

Module-Level Monitoring

iSolarCloud Storage & Data Visualization

Smart Pathfinding

Fault Localization & Precision Bypass

System-Level Response

Anomaly Detection & Shutdown Time $\leq 25s$

Digital Lifecycle Records

Full Lifecycle Data Transparency

Product Warranty

25 Year

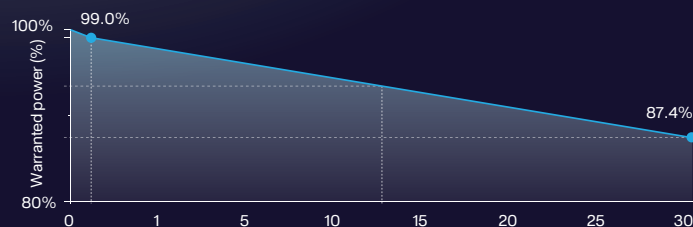
Warranty for Materials and Processing

30 Year

Warranty for Extra Linear Power Output

First Year Power Degradation **<1%**

Year 2-30 Power Degradation **<0.4%**

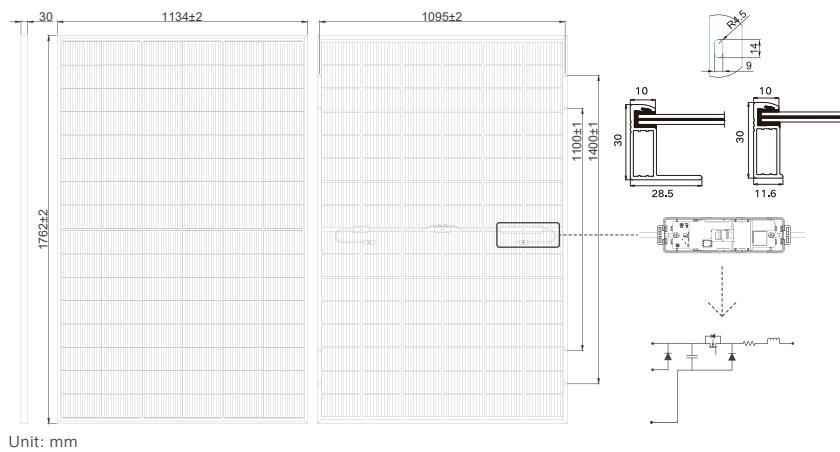


Quality Certification

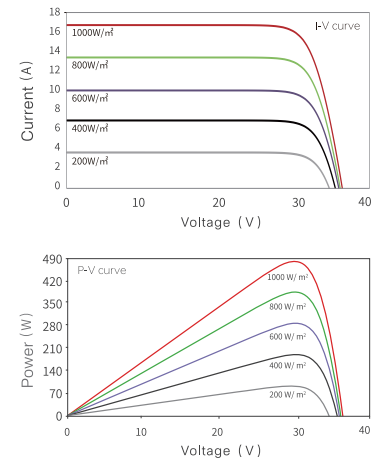


- IEC61215:2021 / IEC61730:2023
- IEC62109-3:2020
- IEC61701 / IEC62716 / IEC60068 / IEC62804
- ISO9001:2015: Quality Management System
- ISO14001:2015: Environment Management System
- ISO45001:2018: Occupational health and safety management systems

Engineering Drawings



I-V and P-V Curves



Specifications (STC)

| | | | | | | |
|----------------------------------|-------|------------------------|-------|-------|-------------|-------|
| Maximum Power Pmax (W) | 455 | 460 | 465 | 470 | 475 | 480 |
| Voltage at Maximum Power (Vmp/V) | 30.40 | 30.67 | 30.94 | 31.21 | 31.48 | 31.75 |
| Current at Maximum Power (Imp/A) | 14.97 | 15.00 | 15.03 | 15.06 | 15.09 | 15.12 |
| Open Circuit Voltage (Voc/V) | 35.98 | 36.15 | 36.32 | 36.49 | 36.66 | 36.83 |
| Short Circuit Current (Isc/A) | 15.87 | 15.90 | 15.93 | 15.96 | 15.99 | 16.02 |
| Module Efficiency (%) | 22.8 | 23.0 | 23.3 | 23.5 | 23.8 | 24.0 |
| Power Tolerance | 0~+3% | Maximum System Voltage | | | DC1500V | |
| Maximum Series Fuse Rating | 30A | Operating Temperature | | | -40°C~+70°C | |
| Bifacial Factor | | | | | | 80±5% |

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

Specifications (BNPI)

| | | | | | | |
|----------------------------------|-------|-------|-------|-------|-------|-------|
| Maximum Power Pmax (W) | 501 | 506 | 512 | 517 | 523 | 528 |
| Voltage at Maximum Power (Vmp/V) | 30.40 | 30.67 | 30.94 | 31.21 | 31.48 | 31.75 |
| Current at Maximum Power (Imp/A) | 16.47 | 16.50 | 16.53 | 16.57 | 16.60 | 16.63 |
| Open Circuit Voltage (Voc/V) | 35.98 | 36.15 | 36.32 | 36.49 | 36.66 | 36.83 |
| Short Circuit Current (Isc/A) | 17.46 | 17.49 | 17.52 | 17.56 | 17.59 | 17.62 |

BNPI: Irradiance Front 1000W/m², Rear 135W/m², Cell Temperature 25°C, AM=1.5

Mechanical Characteristics

| | |
|------------------|--|
| Cell Type | N-type mono-crystalline |
| Cell Orientation | 96 (2×48) |
| Dimension | 1762×1134×30mm |
| Weight | 24.0kg |
| Front Glass | 2.0mm, Anti-reflection Coating |
| Back Glass | 2.0mm, Heat Strengthened Glass |
| Frame | Anodized aluminum alloy |
| Junction Box | IP68 rated |
| Output Cables | 4mm², (+) : 1200mm, (-) : 1200mm or customize 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 |
|----------------|--|

RSD Parameters

| | |
|--------------------------------|--------|
| Shutdown Output Voltage | 1±0.1V |
| Output Bypass | Yes |
| Rapid Shutdown Time | ≤25s |
| Maximum Input Voltage | 60V |
| Maximum System Voltage | 1500V |
| Communication Method | PLC |
| Maximum Communication Distance | ≤450m |