

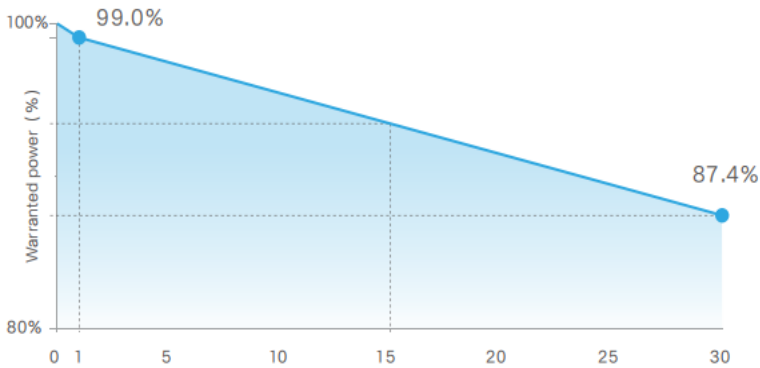
SG-54TW1D 435-455W

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

Quality Certification



Product Warranty



25Year
Warranty for Materials and Processing

30Year
Warranty for Extra Linear Power Output

First Year Power Degradation<1%

Year 2-30 Power Degradation<0.4%

Power warranty applies at STC condition or only applies to the front side of the module

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 lightweighted 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

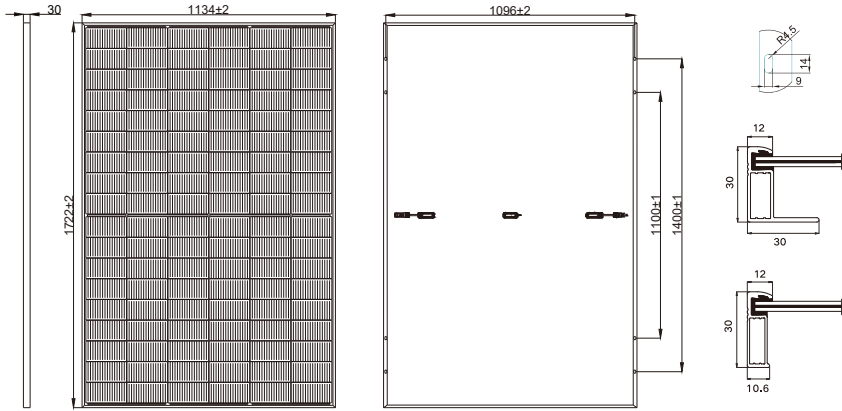
Non-destructive Laser Cutting Technology

Achieving better cell strength, lower micro-cracks risk for better product reliability

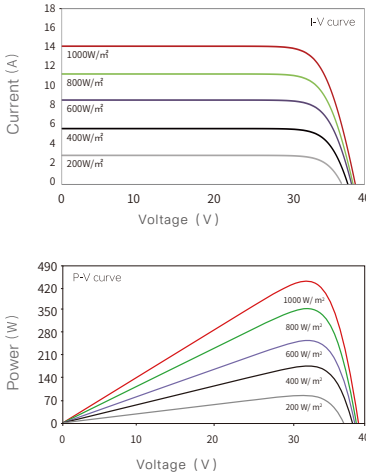
Superior Mechanical Load Capacity

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

Engineering Drawings



I-V and P-V Curves Temperature: (25 ± 2) °C



Electrical Characteristics

Module Type	SG-54TW1D - 435	SG-54TW1D - 440	SG-54TW1D - 445	SG-54TW1D - 450	SG-54TW1D - 455
Maximum Power Pmax (W)	435	440	445	450	455
Voltage at Maximum Power (Vmp/V)	32.66	32.84	33.02	33.20	33.38
Current at Maximum Power (Imp/A)	13.32	13.40	13.48	13.56	13.64
Open Circuit Voltage (Voc/V)	39.31	39.51	39.71	39.91	40.11
Short Circuit Current (Isc/A)	13.99	14.07	14.15	14.23	14.31
Module Efficiency (%)	22.3	22.5	22.8	23.0	23.3
Pmax/Voc/Isc Tolerance	±3%		Maximum System Voltage	DC1500V	
Maximum Series Fuse Rating	30A		Operating Temperature	-40°C~+70°C	
Fire Rating	Class C		Power Sorting Tolerance	0~+5W	

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

Mechanical Characteristics

Cell Type	N- type mono-crystalline
Cell Orientation	108 (2 x 54)
Dimension	1722 x 1134 x 30mm
Weight	19.6kg
Glass	Single glass,3.2mm coated tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	4mm², (+): 1200mm, (-): 1200mm or customized length
Connector Type	Z4S-abcd(Zerun)/PV-ZH202B(Zhonghuan)/PV-HT03(x=0.1or 2)(Haitian)/PV-KST4-EVO2A/xy, PV-KBT4-EVO2A/xy(Staubli)
Mechanical Load	+5400Pa (Front side) /-2400Pa (Rear side)

Temperature Characteristics

Temperature Coefficients of Pmax	-0.30%/°C
Temperature Coefficients of Voc	-0.25%/°C
Temperature Coefficients of Isc	0.046%/°C
Temperature Rating [T98]max	70°C

Packaging Configuration

Pallet Dimension	1752 x 1140 x 1249 mm
Packing Detail	36 pcs/pallets, 72 pcs/stack, 936 pcs/ 40'HQ container