

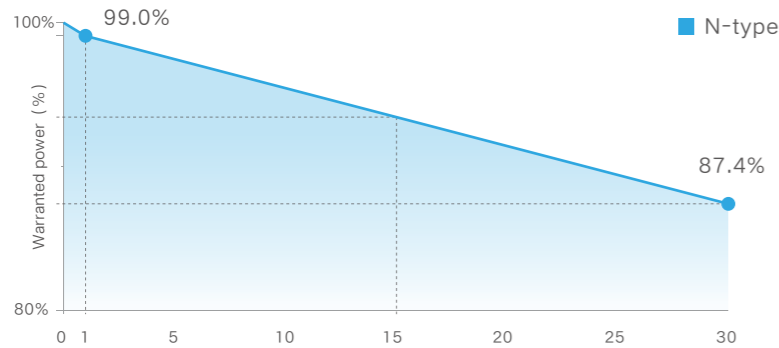
SG-54TG1D-B 435-455W

N-type TOPCon Solar Double Glass Bifacial Module
Maximum Efficiency 23.3%

Quality Certification



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%

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

Product Performance

Outstanding Aesthetics
An elegant, all-black design that can be easily integrated into various roof types

Smaller Size
A lightweight design for convenient transportation and installation

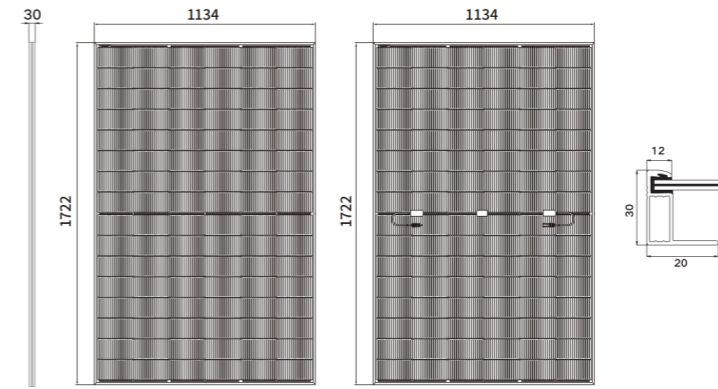
Higher Bifacial Factor
The rear power output and generation capacity are 20% and 3.5% higher than PERC, respectively

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

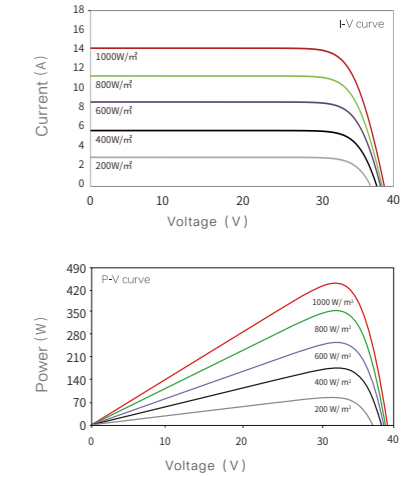
Superior Mechanical Load Capacity
Heavy snow load up to 5400 Pa
wind load up to 2400 Pa

Engineering Drawings



Tolerance: Length: ±2mm Width: ±2mm

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



Electrical Characteristics

Module Type	SG-54TG1D-B-435	SG-54TG1D-B-440	SG-54TG1D-B-445	SG-54TG1D-B-450	SG-54TG1D-B-455
Maximum Power Pmax (W)	435	440	445	450	455
Voltage at Maximum Power (Vmp/V)	32.86	33.04	33.21	33.39	33.56
Current at Maximum Power (Imp/A)	13.24	13.32	13.40	13.48	13.56
Open Circuit Voltage (Voc/V)	39.38	39.58	39.78	39.98	40.18
Short Circuit Current (Isc/A)	13.97	14.05	14.13	14.21	14.29
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

Maximum Power Pmax (W)	479	484	490	495	500
Voltage at Maximum Power (Vmp/V)	32.86	33.04	33.21	33.39	33.56
Current at Maximum Power (Imp/A)	14.56	14.65	14.74	14.83	14.92
Open Circuit Voltage (Voc/V)	39.38	39.58	39.78	39.98	40.18
Short Circuit Current (Isc/A)	15.37	15.46	15.54	15.63	15.72
aBSI(A)	17.07	17.17	17.27	17.37	17.47
Pmax/Voc/Isc/aBSI Tolerance	±3%				
Bifaciality Coefficient	φVoc: 100±3%, φIsc: 80±10%, φPmax: 80±10%				
BNPI: Irradiance Front 1000W/m², Rear 135W/m² Cell Temperature 25°C, AM=1.5					
aBSI: Irradiance Front 1000W/m², Rear 300W/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	24.1kg
Glass	Dual glass, 2.0mm+2.0mm semi-tempered glass
Frame	Composite material
Junction Box	IP68 rated
Output Cables	4mm², (+): 1200mm, (-): 1200mm or customized length
Connector Type	Z4S-abcd(Zerun)/PV-ZH202B(Zhonghuan)/PV-HT03x(x=0,1or 2)(Haitian)/QC4.10-cds(QC Solar)/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