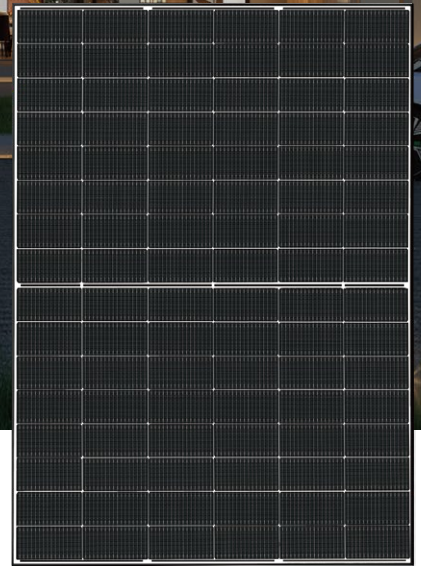


# SG-48TG4D 450-470W

N-type TOPCon Solar Double Glass Bifacial Module  
**Maximum Efficiency 23.5%**

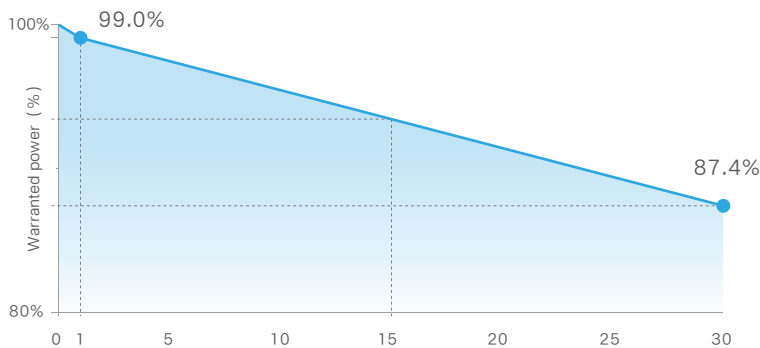


### Quality Certification

- 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

**30** Year

Warranty for Extra Linear Power Output

First Year Power Degradation <1%

Year 2-30 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



#### Higher Bifacial Factor

The rear power output and generation capacity are 20% and 3.5% higher than P-type, respectively



#### Superior Temperature Coefficient

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



#### Anti-PID Guarantee

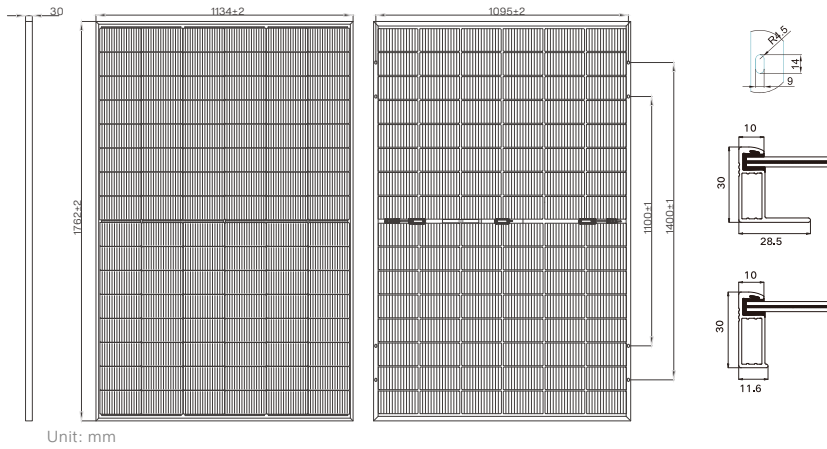
Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control



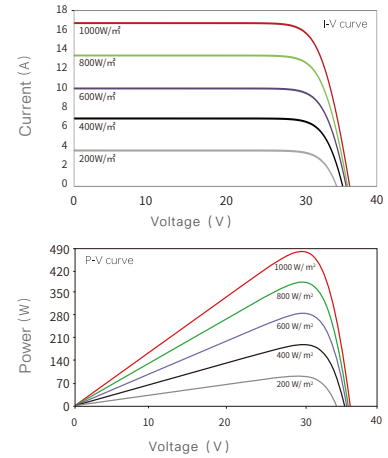
#### Superior Mechanical Load Capacity

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

## Engineering Drawings



## I-V and P-V Curves



## Specifications (STC)

Maximum Power Pmax (W)	450	455	460	465	470
Voltage at Maximum Power (Vmp/V)	30.13	30.40	30.67	30.94	31.21
Current at Maximum Power (Imp/A)	14.94	14.97	15.00	15.03	15.06
Open Circuit Voltage (Voc/V)	35.81	35.98	36.15	36.32	36.49
Short Circuit Current (Isc/A)	15.84	15.87	15.90	15.93	15.96
Module Efficiency (%)	22.5	22.8	23.0	23.3	23.5
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/m<sup>2</sup>, Cell Temperature 25°C, AM=1.5

## Specifications (BNPI)

Maximum Power Pmax (W)	495	501	506	512	517
Voltage at Maximum Power (Vmp/V)	30.13	30.40	30.67	30.94	31.21
Current at Maximum Power (Imp/A)	16.43	16.47	16.50	16.53	16.57
Open Circuit Voltage (Voc/V)	35.81	35.98	36.15	36.32	36.49
Short Circuit Current (Isc/A)	17.42	17.46	17.49	17.52	17.56

BNPI: Irradiance Front 1000W/m<sup>2</sup>, Rear 135W/m<sup>2</sup>, 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	24.3kg
Glass	Dual glass, 2.0mm+2.0mm semi-tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	4mm <sup>2</sup> , (+): 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
----------------	--

**SUNGROW**

Sungrow Renewables

NO.2, Tianhu Road, High-tech Industry, Development Zone, Hefei, P.R. China

modulesales@sungrowpower.com www.sungrowplant.com

\*Specifications included in this datasheet are subject to change without notice. Sungrow Renewables reserves the right of final interpretation.