



SUNGROW

PV Module Product Brochure

Clean power for all

Sungrow Renewables

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

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Sungrow Renewables

Company Introduction

Excellent Credit



Company Introduction

Sungrow Renewables

Sungrow Renewables Development Co., Ltd (hereinafter referred to as "Sungrow Renewables") is a high-tech national enterprise focused on the development and utilization of renewable energy. As the renewable energy development and investment platform of Sungrow Power Supply Co., Ltd. (stock code: 300274), Sungrow Renewables specializes in the fields of photovoltaic, wind, energy storage, electric vehicle charging, and multi-energy integration such as wind, solar, energy storage, and hydrogen, providing comprehensive solutions that cover the entire lifecycle of new energy development, including system research and development, investment and development, design and construction, and operational management. It is the largest photovoltaic developer in the world.

Business Scope:



Centralized PV



Commercial and industrial PV



Residential PV



Wind farm



Energy storage



Multi-energy integration



Charging station



Residential energy

NO.1

Consecutive two-year global PV power station developer
(Data: S&P Global DBT Mode)

500

Global Top 500 New Energy Enterprises

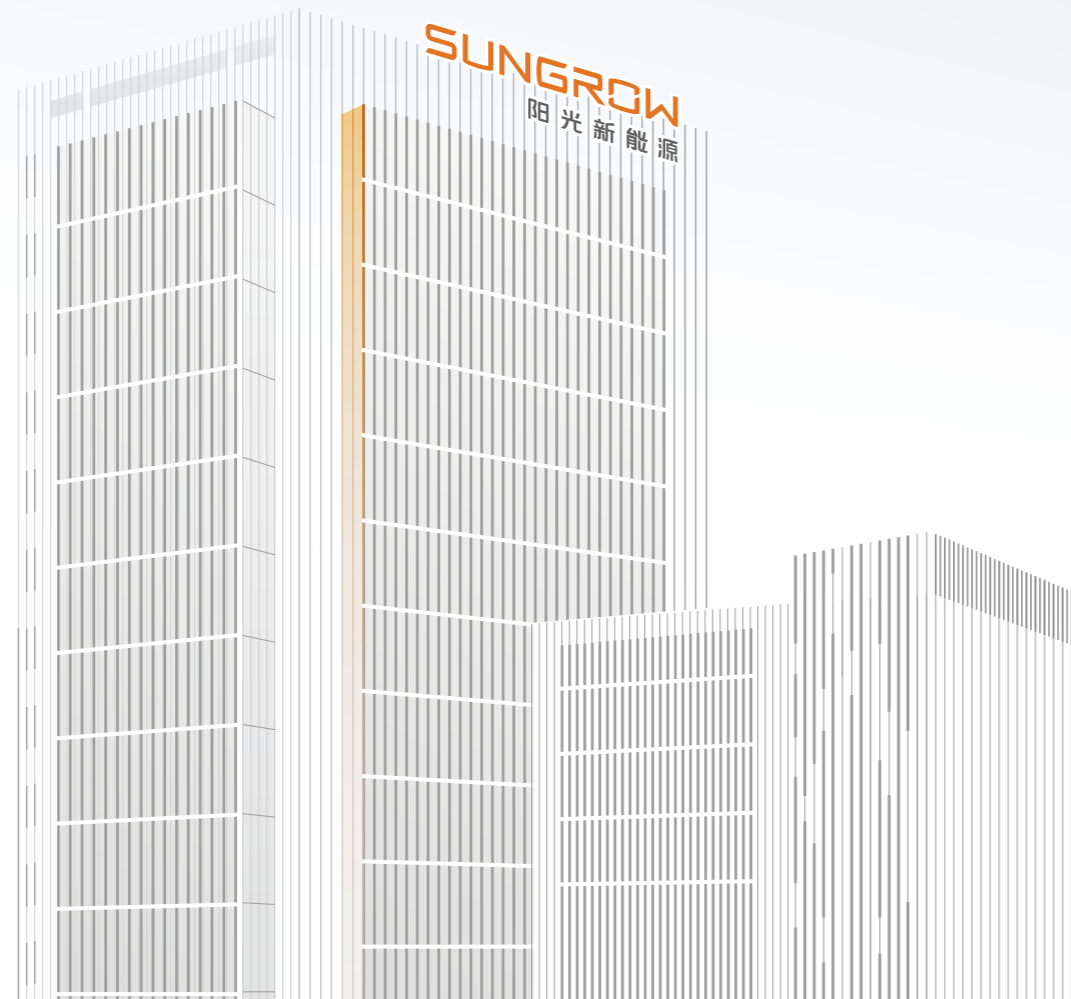
54⁺ GW

Global cumulative development and construction of PV and wind power projects

9⁺ GW

Overseas projects cumulative development

Note: Data valid until Dec 2024



Vision

To Be the Global Leader of Renewable Energy Power Plant Technology

Mission



Clean Power for All

Excellent Credit

Reliable Financing Capability

Sungrow Renewables

Sungrow Renewables has shown excellent reputation and reliable financing capability. The company ranks AA+ in credit rating, enjoying overseas platform subsidiary comprehensive credit line with 600 million USD.

 <p>Bankability Rating</p>	<p>AA+ Rating in the four largest Chinese Banks</p>	<p>600 million USD Overseas Platform Subsidiary Comprehensive Credit Line</p>
 <p>ESG</p>	<p>A MSCI ESG Rating</p>	<p>Top 50 Forbes China Sustainable Industrial Enterprises</p>

Note: Data valid until Dec 2024

Financial Partners

Big Four Banks



Major Financial Leasing Companies



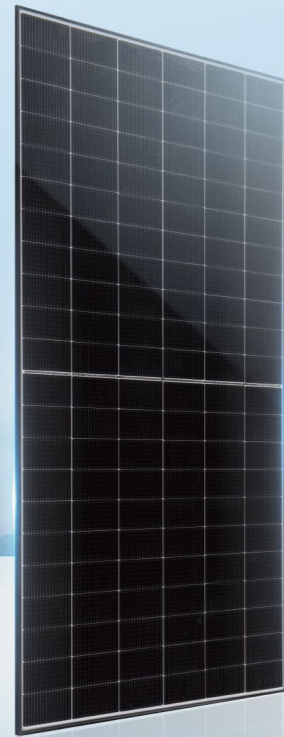
Central Government-owned and State-owned Enterprise

(In no particular order)





Products





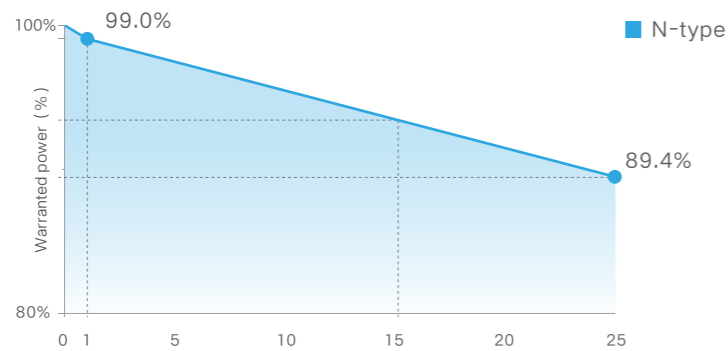
SG-54TW1D 440-460W

N-type TOPCon Solar Single-glass Module
Maximum Efficiency 23.6%

Quality Certification



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

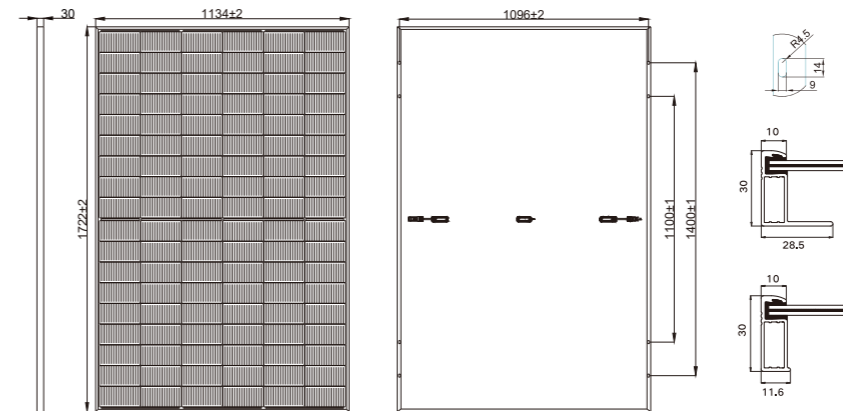
Lower LCOE
Effectively reduce system BOS costs and shorten the return on investment cycle

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

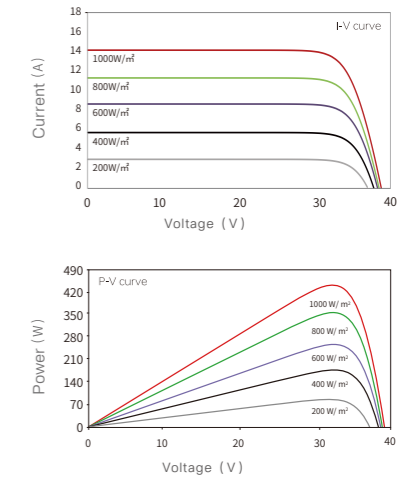
Anti-PID Guarantee
Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control

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

Engineering Drawings



I-V and P-V Curves



Electrical Characteristics

Maximum Power Pmax (W)	440	445	450	455	460
Voltage at Maximum Power (Vmp/V)	32.84	33.02	33.20	33.38	33.56
Current at Maximum Power (Imp/A)	13.40	13.48	13.56	13.64	13.72
Open Circuit Voltage (Voc/V)	39.51	39.71	39.91	40.11	40.31
Short Circuit Current (Isc/A)	14.07	14.15	14.23	14.31	14.39
Module Efficiency (%)	22.5	22.8	23.0	23.3	23.6
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	108 (2 x 54)
Dimension	1722 x 1134 x 30mm
Weight	19.0kg
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/others
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

Packaging Configuration

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

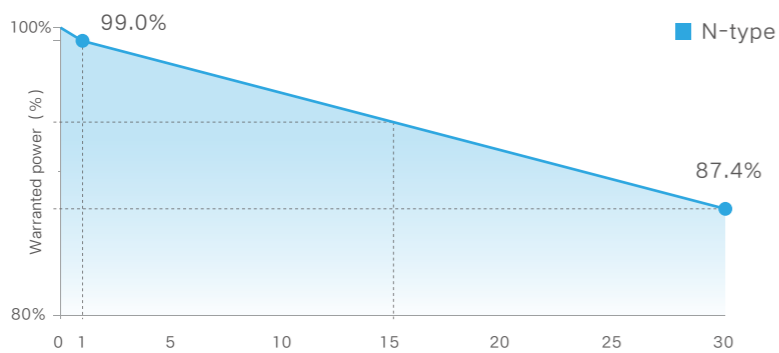
SG-54TG1D 435-455W

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%

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

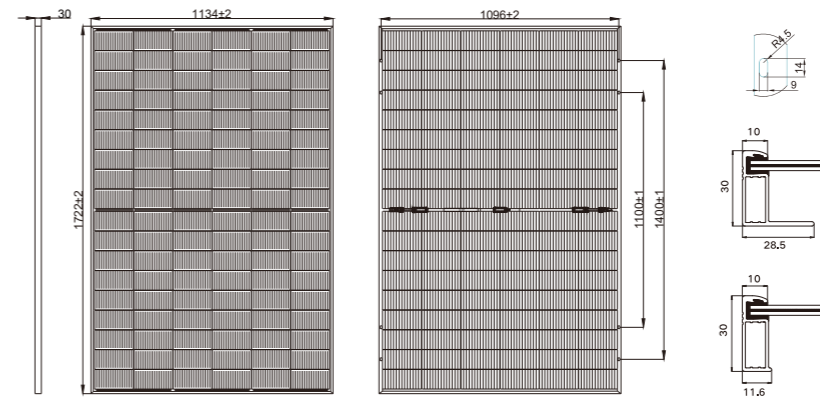
Higher Bifacial Factor
The rear power output and generation capacity are 20% and 3.5% higher than PERC, respectively

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

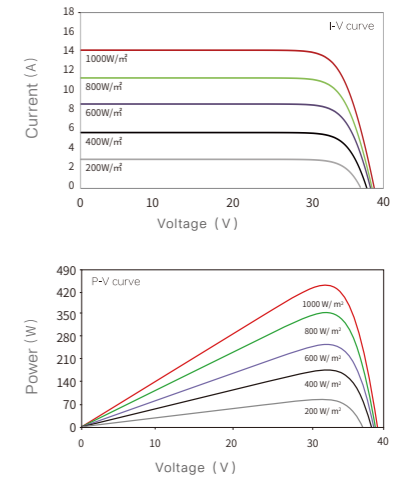
Anti-PID Guarantee
Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control

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



Electrical Characteristics

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	39.79	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
Power Tolerance	0~+3%	Maximum System Voltage		DC1500V	
Maximum Series Fuse Rating	30A	Operating Temperature		-40°C~+85°C	
Bifacial Factor	80±5%				

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	23.9kg
Glass	Dual glass, 2.0mm+2.0mm semi-tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	4mm², (+): 1200mm, (-): 1200mm or customized length
Connector Type	MC4/others
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

Packaging Configuration

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

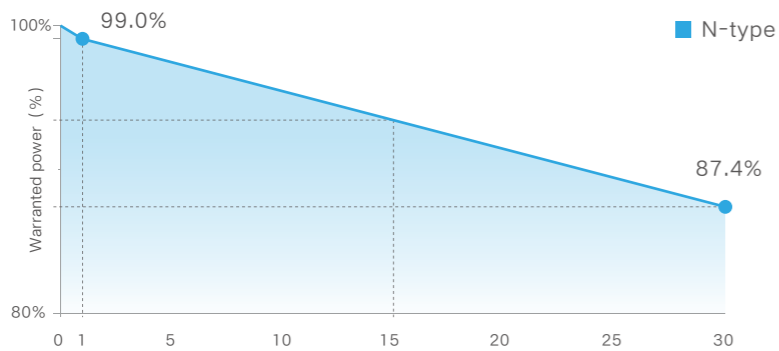
SG-54TG1D-B 430-450W

N-type TOPCon Solar Double Glass Bifacial Module
Maximum Efficiency 23.0%

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%

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

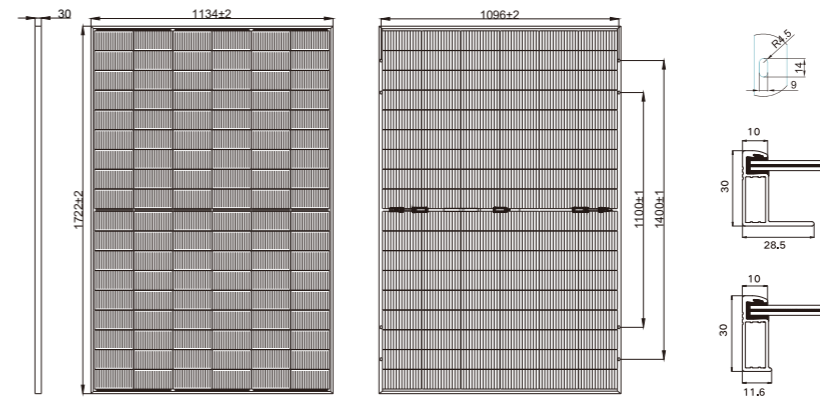
Higher Bifacial Factor
The rear power output and generation capacity are 20% and 3.5% higher than PERC, respectively

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

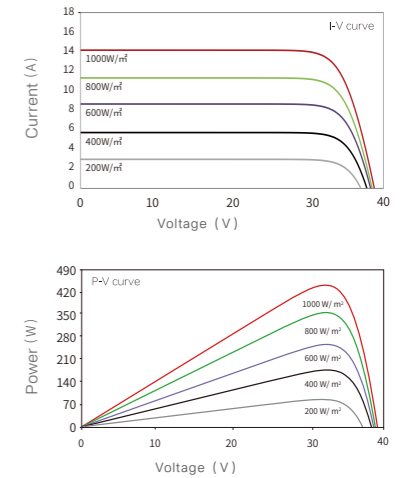
Anti-PID Guarantee
Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control

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



Electrical Characteristics

Maximum Power Pmax (W)	430	435	440	445	450
Voltage at Maximum Power (Vmp/V)	32.68	32.86	33.04	33.21	33.39
Current at Maximum Power (Imp/A)	13.16	13.24	13.32	13.40	13.48
Open Circuit Voltage (Voc/V)	39.18	39.38	39.58	39.79	39.98
Short Circuit Current (Isc/A)	13.89	13.97	14.05	14.13	14.21
Module Efficiency (%)	22.0	22.3	22.5	22.8	23.0
Power Tolerance	0~+3%		Maximum System Voltage	DC1500V	
Maximum Series Fuse Rating	30A		Operating Temperature	-40°C~+85°C	
Bifacial Factor	80±5%				

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	23.9kg
Glass	Dual glass, 2.0mm+2.0mm semi-tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	4mm², (+): 1200mm, (-): 1200mm or customized length
Connector Type	MC4/others
Mechanical Load	5400Pa (Front side) /2400Pa (Rear side)

Temperature Characteristics

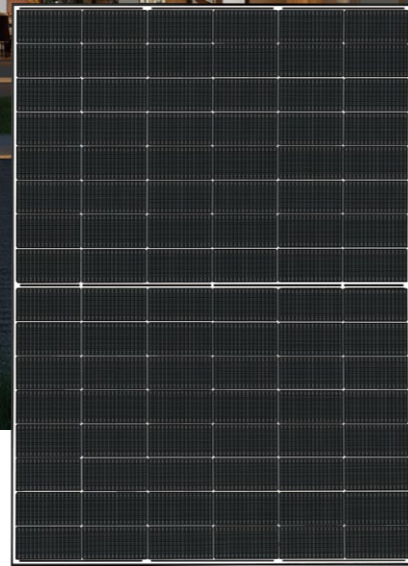
Temperature Coefficients of Pmax	-0.30%/°C
Temperature Coefficients of Voc	-0.25%/°C
Temperature Coefficients of Isc	0.046%/°C

Packaging Configuration

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

SG-48TW4D 440-460W

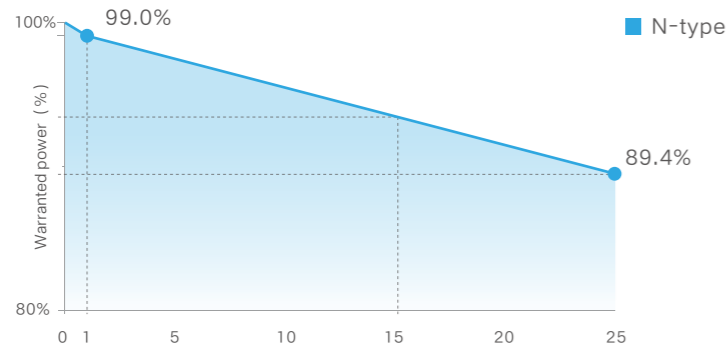
N-type TOPCon Solar Single-glass Module
Maximum Efficiency 23.0%



Quality Certification



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

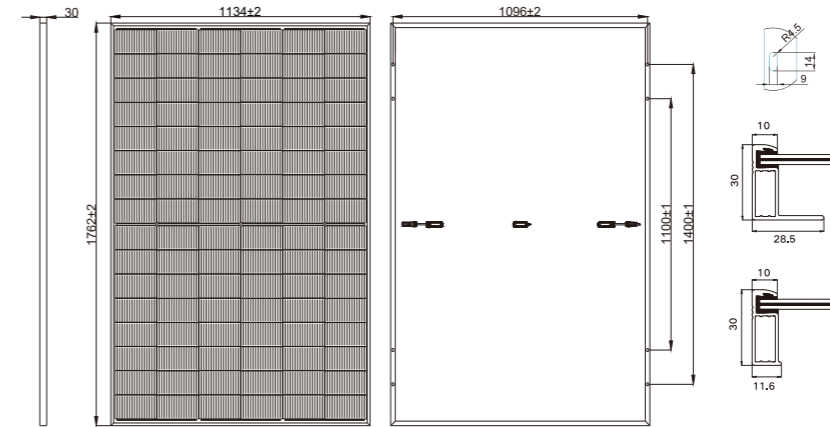
Lower LCOE
Effectively reduce system BOS costs and shorten the return on investment cycle

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

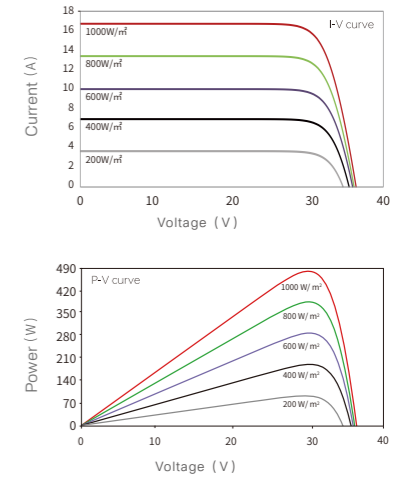
Anti-PID Guarantee
Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control

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

Engineering Drawings



I-V and P-V Curves



Electrical Characteristics

Maximum Power Pmax (W)	440	445	450	455	460
Voltage at Maximum Power (Vmp/V)	29.53	29.71	29.89	30.07	30.25
Current at Maximum Power (Imp/A)	14.90	14.98	15.06	15.14	15.22
Open Circuit Voltage (Voc/V)	34.56	34.76	34.96	35.16	35.36
Short Circuit Current (Isc/A)	16.00	16.08	16.16	16.24	16.32
Module Efficiency (%)	22.0	22.3	22.5	22.8	23.0
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	4mm ² , (+): 1200mm, (-): 1200mm or customized length
Connector Type	MC4/others
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

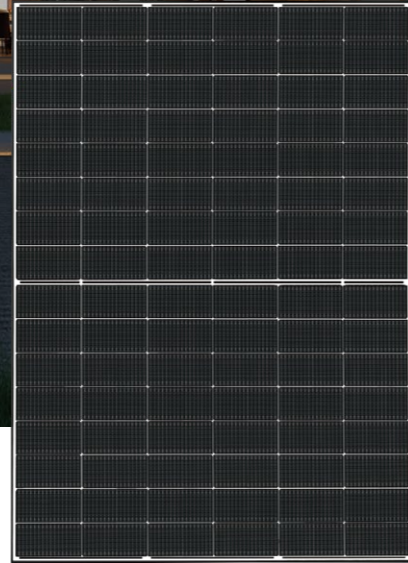
Packaging Configuration

Pallet Dimension	1792 x 1140 x 1249 mm
Packing Detail	36pcs/pallets, 72 pcs/stack, 936 pcs/ 40'HQ container

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SG-48TG4D 435-455W

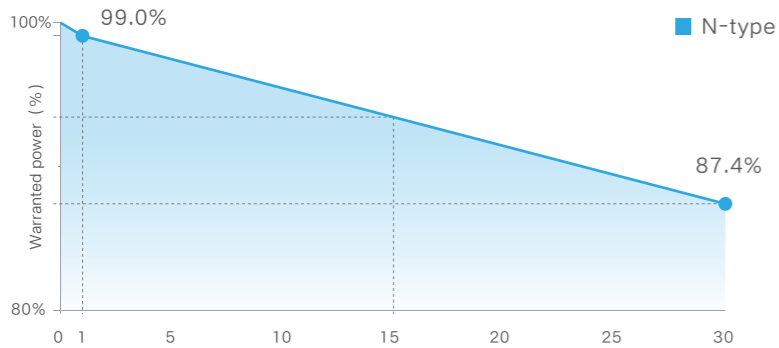
N-type TOPCon Solar Double Glass Bifacial Module
Maximum Efficiency 22.8%



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%

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

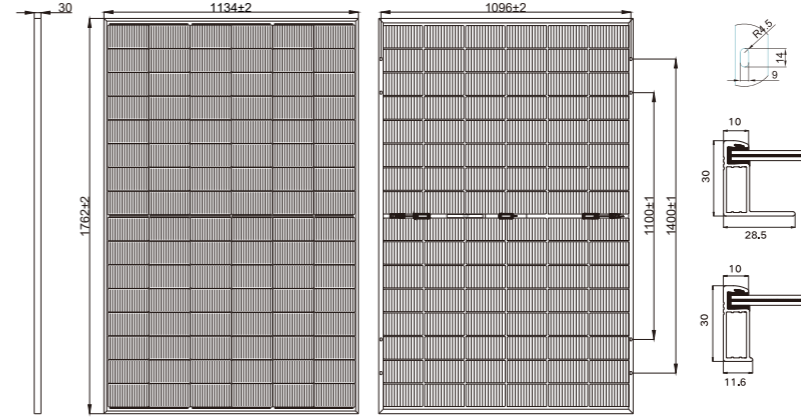
Higher Bifacial Factor
The rear power output and generation capacity are 20% and 3.5% higher than PERC, respectively

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

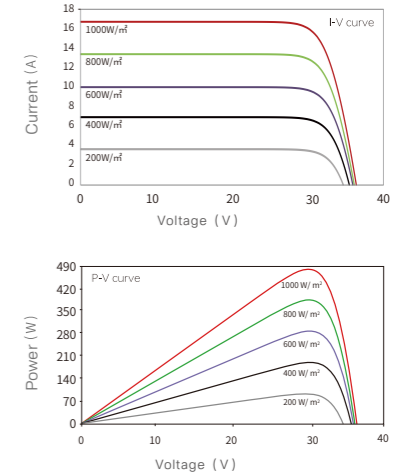
Anti-PID Guarantee
Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control

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



Electrical Characteristics

Maximum Power Pmax (W)	435	440	445	450	455
Voltage at Maximum Power (Vmp/V)	29.54	29.72	29.90	30.08	30.26
Current at Maximum Power (Imp/A)	14.73	14.81	14.89	14.97	15.05
Open Circuit Voltage (Voc/V)	34.49	34.67	34.85	35.03	35.21
Short Circuit Current (Isc/A)	15.90	15.95	16.00	16.05	16.10
Module Efficiency (%)	21.8	22.0	22.3	22.5	22.8
Power Tolerance	0~+3%	Maximum System Voltage		DC1500V	
Maximum Series Fuse Rating	30A	Operating Temperature		-40°C~+85°C	
Bifacial Factor	80±5%				

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	23.0kg
Glass	Dual glass, 2.0mm+2.0mm semi-tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	4mm², (+): 1200mm, (-): 1200mm or customized length
Connector Type	MC4/others
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

Packaging Configuration

Pallet Dimension	1792 x 1140 x 1249 mm
Packing Detail	36 pcs/pallets, 72 pcs/stack, 936 pcs/ 40'HQ container

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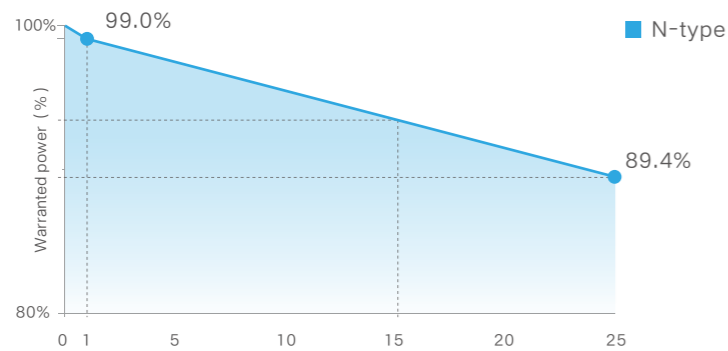
SG-48TB4D-B 430-450W

N-type TOPCon Solar Single-glass Module
Maximum Efficiency 22.5%

Quality Certification



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

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

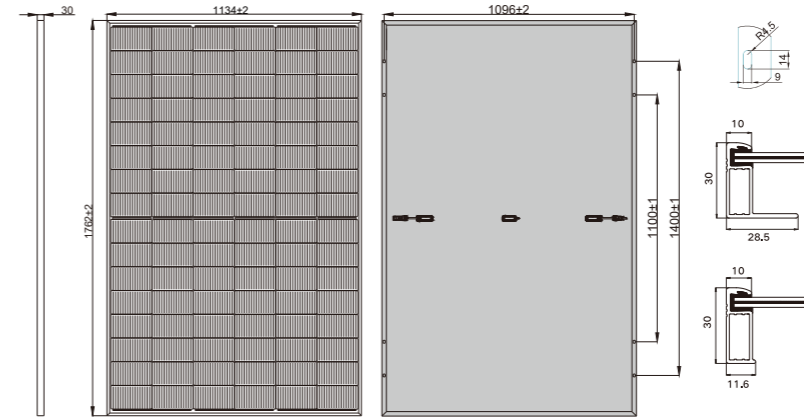
Lower LCOE
Effectively reduce system BOS costs and shorten the return on investment cycle

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

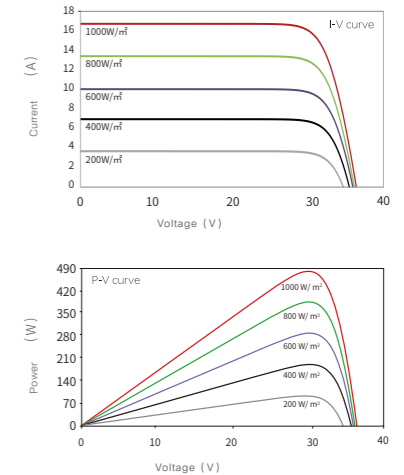
Anti-PID Guarantee
Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control

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

Engineering Drawings



I-V and P-V Curves



Electrical Characteristics

Maximum Power Pmax (W)	430	435	440	445	450
Voltage at Maximum Power (Vmp/V)	29.36	29.54	29.72	29.90	30.08
Current at Maximum Power (Imp/A)	14.65	14.73	14.81	14.89	14.97
Open Circuit Voltage (Voc/V)	34.31	34.49	34.67	34.85	35.03
Short Circuit Current (Isc/A)	15.85	15.90	15.95	16.00	16.05
Module Efficiency (%)	21.5	21.8	22.0	22.3	22.5
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/others
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

Packaging Configuration

Pallet Dimension	1792 x 1140 x 1249 mm
Packing Detail	36 pcs/pallets, 72 pcs/stack, 936 pcs/ 40'HQ container

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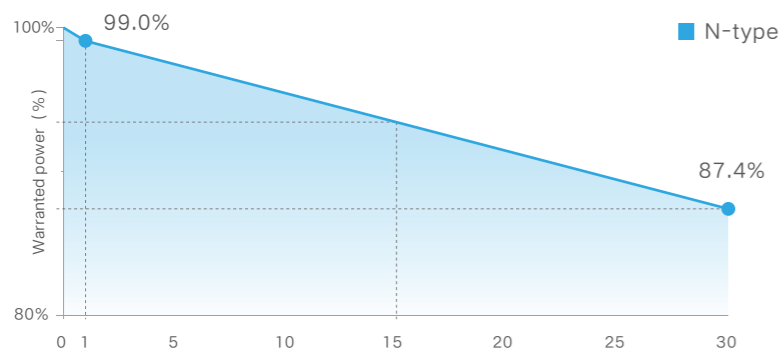
SG-48TG4D-B 430-450W

N-type TOPCon Solar Double Glass Bifacial Module
Maximum Efficiency 22.5%

Quality Certification



Product Warranty

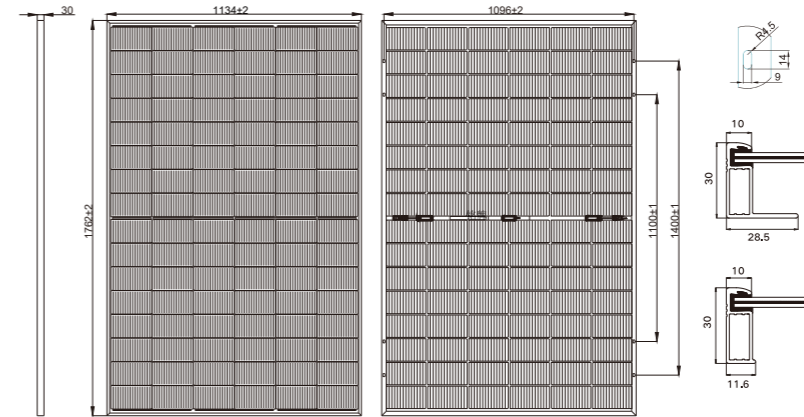


25-year Warranty for Materials and Processing
30-year Warranty for Extra Linear Power Output
First Year Power Degradation <1%
Year 2-30 Power Degradation <0.4%

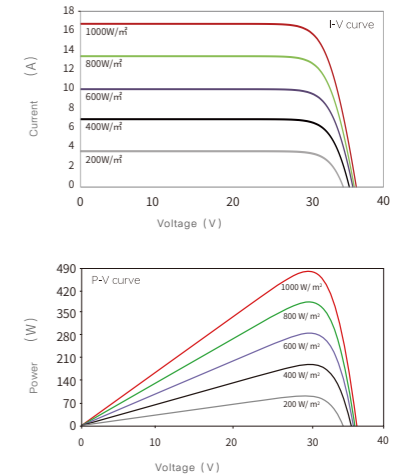
Product Performance

- 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
- 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



Electrical Characteristics

Maximum Power Pmax (W)	430	435	440	445	450
Voltage at Maximum Power (Vmp/V)	29.36	29.54	29.72	29.90	30.08
Current at Maximum Power (Imp/A)	14.65	14.73	14.81	14.89	14.97
Open Circuit Voltage (Voc/V)	34.31	34.49	34.67	34.85	35.03
Short Circuit Current (Isc/A)	15.85	15.90	15.95	16.00	16.05
Module Efficiency (%)	21.5	21.8	22.0	22.3	22.5
Power Tolerance	0~+3%		Maximum System Voltage	DC1500V	
Maximum Series Fuse Rating	30A		Operating Temperature	-40°C~+85°C	
Bifacial Factor	80±5%				

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	23.0kg
Glass	Dual glass, 2.0mm+2.0mm semi-tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	4mm ² , (+): 1200mm, (-): 1200mm or customized length
Connector Type	MC4/others
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

Packaging Configuration

Pallet Dimension	1792 x 1140 x 1249 mm
Packing Detail	36 pcs/pallets, 72 pcs/stack, 936 pcs/ 40'HQ container

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



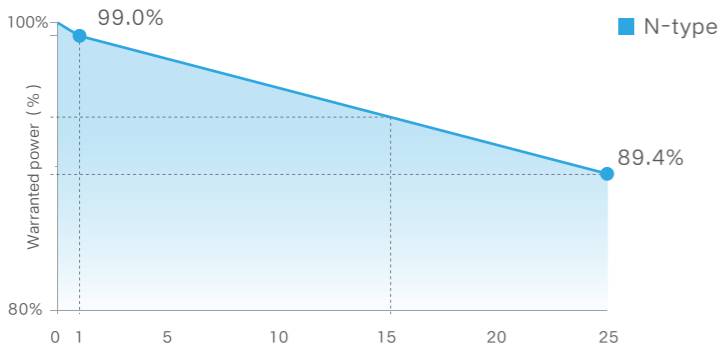
SG-54TW4D 500-520W

N-type TOPCon Solar Single-glass Module
Maximum Efficiency 23.4%

Quality Certification



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

Higher Efficiency
Excellent MBB technology and leading process technology, conversion efficiency up to 23.2%

Smaller Size
A lightweight design for convenient transportation and installation

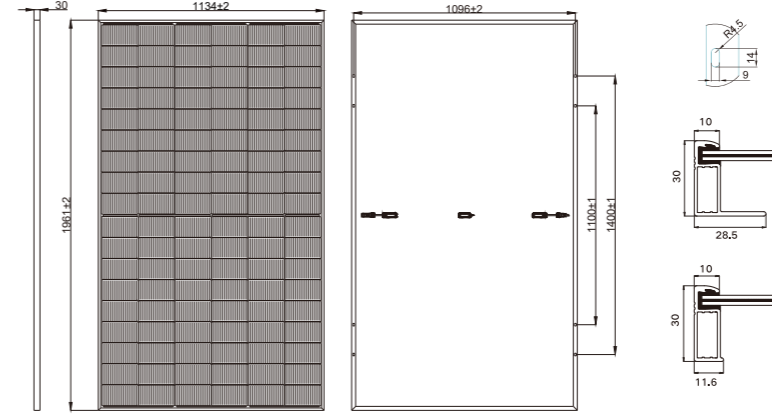
Lower LCOE
Effectively reduce system BOS costs and shorten the return on investment cycle

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

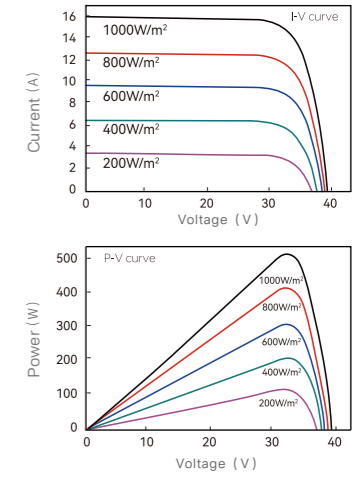
Anti-PID Guarantee
Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control

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

Engineering Drawings



I-V and P-V Curves



Electrical Characteristics

Maximum Power Pmax (W)	500	505	510	515	520
Voltage at Maximum Power (Vmp/V)	33.49	33.67	33.85	34.03	34.21
Current at Maximum Power (Imp/A)	14.93	15.01	15.09	15.17	15.25
Open Circuit Voltage (Voc/V)	39.91	40.09	40.27	40.45	40.63
Short Circuit Current (Isc/A)	15.95	16.03	16.11	16.19	16.27
Module Efficiency (%)	22.5	22.7	22.9	23.2	23.4
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	108 (2 x 54)
Dimension	1961 x 1134 x 30mm
Weight	22.2kg
Glass	Single glass, 2.8mm coated tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	4mm ² , (+): 1200mm, (-): 1200mm or customized length
Connector Type	MC4/others
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

Packaging Configuration

Pallet Dimension	1991 x 1120 x 1250 mm
Packing Detail	36 pcs/pallets, 72 pcs/stack, 864 pcs/ 40'HQ container

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

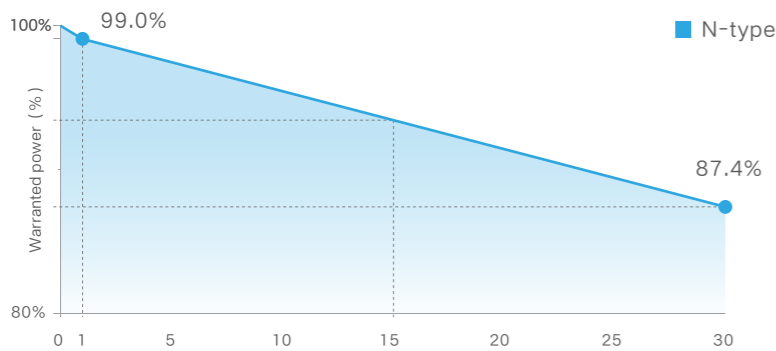
SG-54TG4D 495-515W

N-type TOPCon Solar Double Glass Bifacial Module
Maximum Efficiency 23.2%

Quality Certification



Product Warranty

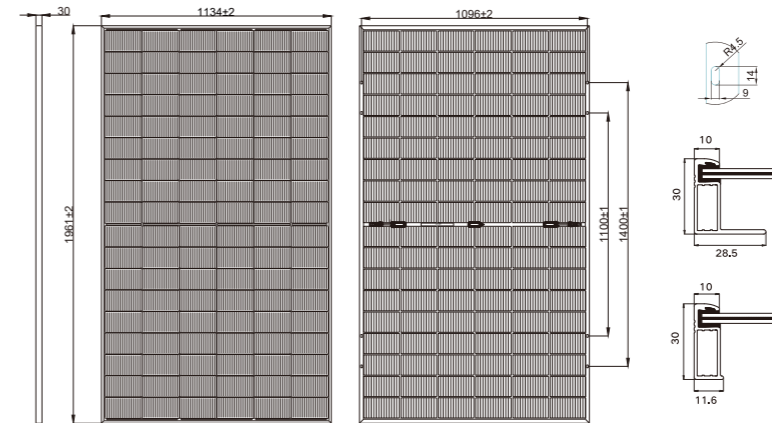


25-year Warranty for Materials and Processing
30-year Warranty for Extra Linear Power Output
First Year Power Degradation <1%
Year 2-30 Power Degradation <0.4%

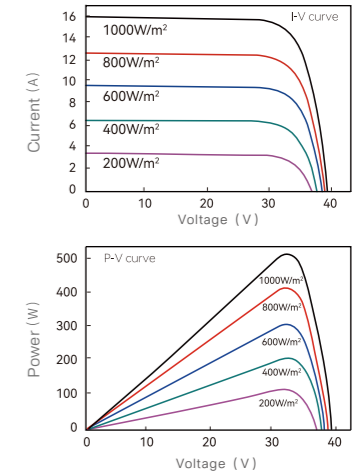
Product Performance

- Higher Efficiency**
Excellent MBB technology and leading process technology, conversion efficiency up to 23.2%
- 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
- 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



Electrical Characteristics

Maximum Power Pmax (W)	495	500	505	510	515
Voltage at Maximum Power (Vmp/V)	33.45	33.70	33.94	34.19	34.43
Current at Maximum Power (Imp/A)	14.80	14.84	14.88	14.92	14.96
Open Circuit Voltage (Voc/V)	39.88	40.06	40.24	40.42	40.60
Short Circuit Current (Isc/A)	15.86	15.89	15.92	15.95	15.98
Module Efficiency (%)	22.3	22.5	22.7	22.9	23.2
Power Tolerance	0~+3%		Maximum System Voltage	DC1500V	
Maximum Series Fuse Rating	30A		Operating Temperature	-40°C~+85°C	
Bifacial Factor	80±5%				

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	1961 x 1134 x 30mm
Weight	26.5kg
Glass	Dual glass, 2.0mm+2.0mm semi-tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	4mm², (+): 1200mm, (-): 1200mm or customized length
Connector Type	MC4/others
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

Packaging Configuration

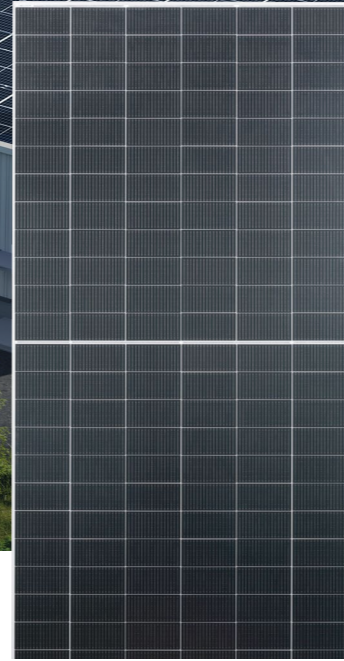
Pallet Dimension	1991 x 1120 x 1250 mm
Packing Detail	36 pcs/pallets, 72 pcs/stack, 864 pcs/ 40'HQ container

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



SG-72TW1D 580-605W

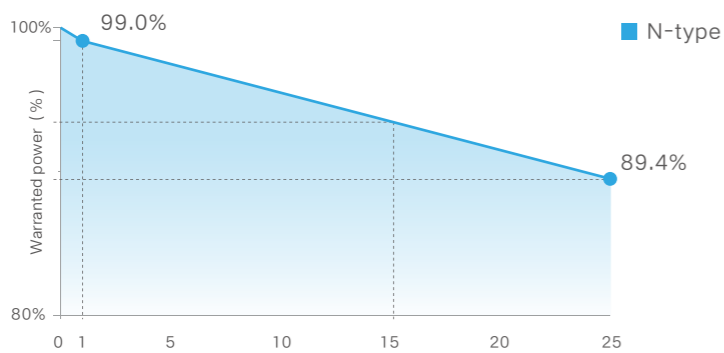
N-type TOPCon Solar Single-glass Module
Maximum Efficiency 23.4%



Quality Certification



Product Warranty



15-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

Higher Efficiency
Excellent MBB technology and leading process technology, conversion efficiency up to 23.2%

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

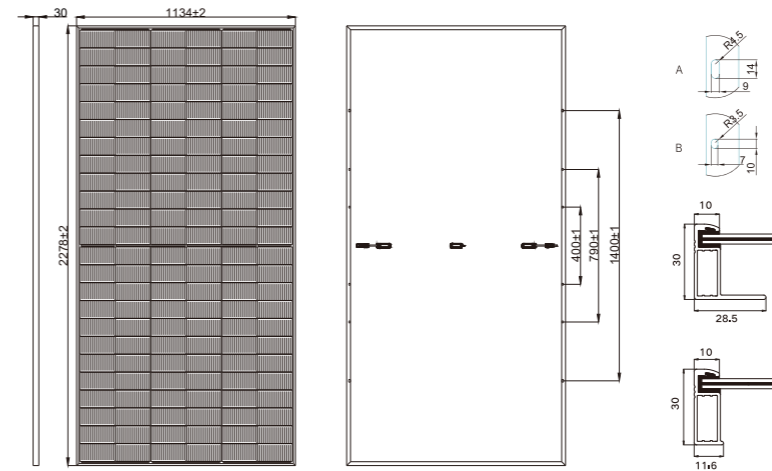
Lower LCOE
Effectively reduce system BOS costs and shorten the return on investment cycle

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

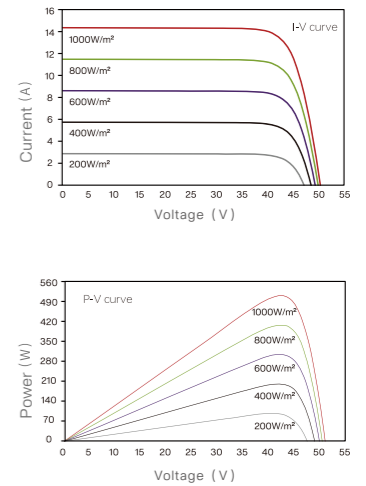
Anti-PID Guarantee
Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control

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

Engineering Drawings



I-V and P-V Curves



Electrical Characteristics

Maximum Power Pmax (W)	580	585	590	595	600	605
Voltage at Maximum Power (Vmp/V)	43.35	43.53	43.71	43.88	44.06	44.23
Current at Maximum Power (Imp/A)	13.38	13.44	13.50	13.56	13.62	13.68
Open Circuit Voltage (Voc/V)	52.31	52.47	52.63	52.79	52.95	53.11
Short Circuit Current (Isc/A)	14.01	14.07	14.13	14.19	14.25	14.31
Module Efficiency (%)	22.5	22.7	22.8	23.0	23.2	23.4
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	144 (2 x 72)
Dimension	2278 x 1134 x 30mm
Weight	26.1kg
Glass	Single glass, 2.8mm coated tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	4mm², (+): 300mm, (-): 200mm or customized length
Connector Type	MC4/others
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

Packaging Configuration

Pallet Dimension	2338 x 1140 x 1251 mm
Packing Detail	36 pcs/pallets, 72 pcs/stack, 720 pcs/ 40'HQ container

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



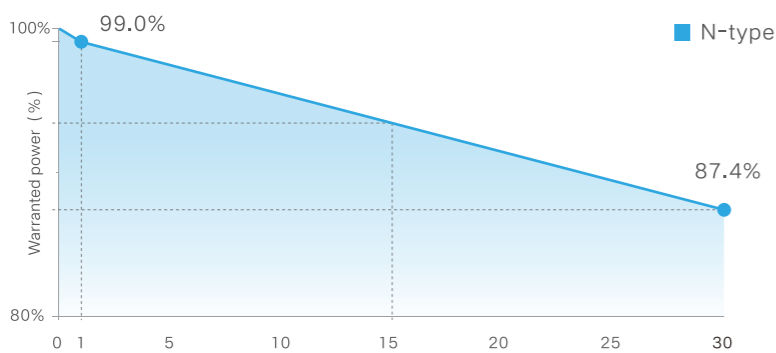
SG-78TG1D 620-645W

N-type TOPCon Solar Double Glass Bifacial Module
Maximum Efficiency 23.1%

Quality Certification



Product Warranty



15-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

Bifacial Design Boosts Generation Capacity
The rear power generation is 20% higher than PERC modules

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

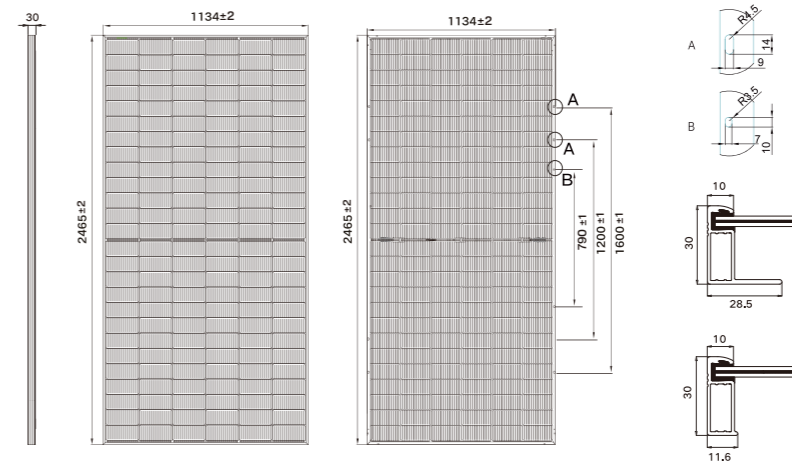
Higher Efficiency
Excellent MBB technology and leading process technology, conversion efficiency of up to 23.1%

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

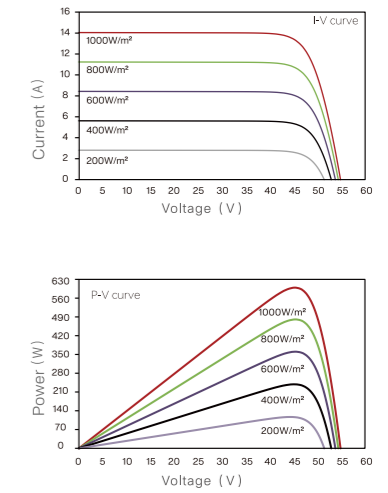
Anti-PID Guarantee
Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control

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

Engineering Drawings



I-V and P-V Curves



Electrical Characteristics

Maximum Power Pmax (W)	620	625	630	635	640	645
Voltage at Maximum Power (Vmp/V)	47.43	47.54	47.70	47.86	48.02	48.17
Current at Maximum Power (Imp/A)	13.07	13.15	13.21	13.27	13.33	13.39
Open Circuit Voltage (Voc/V)	55.99	56.95	57.08	57.21	57.34	57.47
Short Circuit Current (Isc/A)	13.74	13.80	13.86	13.92	13.98	14.04
Module Efficiency (%)	22.2	22.4	22.5	22.7	22.9	23.1
Power Tolerance	0~+3%		Maximum System Voltage		DC1500V	
Maximum Series Fuse Rating	30A		Operating Temperature		-40°C~+85°C	
Bifacial Factor	80±5%					

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

Mechanical Characteristics

Cell Type	N- type mono-crystalline
Cell Orientation	156 (2 x 78)
Dimension	2465 x 1134 x 30mm
Weight	33.4kg
Glass	Dual glass, 2.0mm+2.0mm semi-tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	4mm ² , (+): 300mm, (-): 200mm or customized length
Connector Type	MC4/others
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

Packaging Configuration

Pallet Dimension	2525 x 1140 x 1251 mm
Packing Detail	36 pcs/pallets, 72 pcs/stack, 576 pcs/ 40'HQ container

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

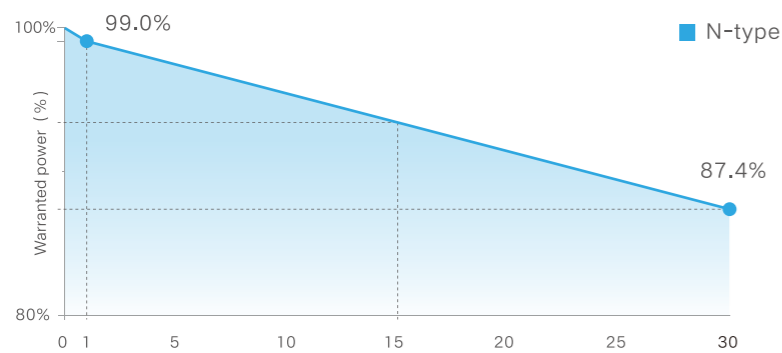
SG-66TG4D 600-625W

N-type TOPCon Solar Double Glass Bifacial Module
Maximum Efficiency 23.1%

Quality Certification



Product Warranty

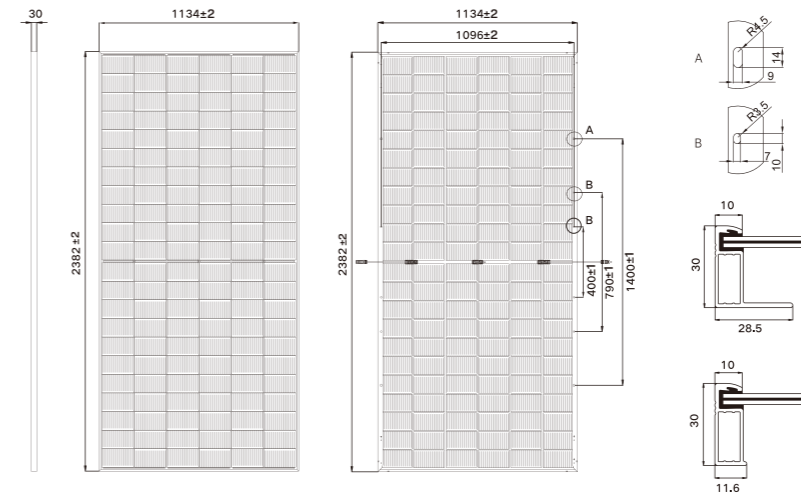


- 15-year Warranty for Materials and Processing
- 30-year Warranty for Extra Linear Power Output
- First Year Power Degradation <1%
- Year 2-30 Power Degradation <0.4%

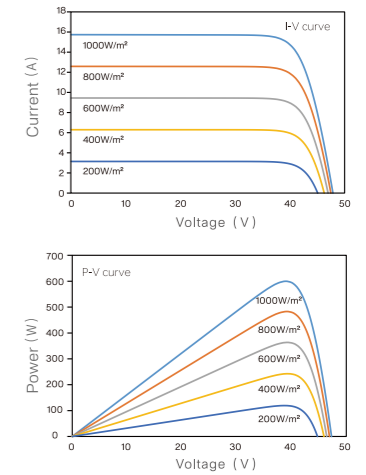
Product Performance

- Lower LCOE**
Effectively reduce system BOS costs and shorten the return on investment cycle
- Superior Low Irradiation Performance**
Higher power output in the morning and evening, cloudy days, haze and other low-light scenarios
- Higher Bifacial Factor**
The rear power output and generation capacity are 20% and 3.5% higher than PERC, respectively
- Non-destructive Laser Cutting Technology**
Achieving better cell strength, lower micro-cracks risk for better product reliability
- 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



Electrical Characteristics

Maximum Power Pmax (W)	600	605	610	615	620	625
Voltage at Maximum Power (Vmp/V)	40.3	40.5	40.8	41.1	41.4	41.7
Current at Maximum Power (Imp/A)	14.91	14.94	14.96	14.98	14.99	15.00
Open Circuit Voltage (Voc/V)	48.4	48.7	49.0	49.3	49.6	49.9
Short Circuit Current (Isc/A)	15.80	15.83	15.86	15.89	15.91	15.92
Module Efficiency (%)	22.2	22.4	22.6	22.8	23.0	23.1
Power Tolerance	0~+3%		Maximum System Voltage		DC1500V	
Maximum Series Fuse Rating	30A		Operating Temperature		-40°C~+85°C	
Bifacial Factor	80±5%					

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

Mechanical Characteristics

Cell Type	N- type mono-crystalline
Cell Orientation	132 (6 x 22)
Dimension	2382 x 1134 x 30mm
Weight	32.2kg
Glass	Dual glass, 2.0mm+2.0mm semi-tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	4mm ² , (+): 300mm, (-): 200mm or customized length
Connector Type	MC4/others
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

Packaging Configuration

Pallet Dimension	2396 x 1110 x 1251 mm
Packing Detail	36 pcs/pallets, 72 pcs/stack, 720 pcs/ 40'HQ container

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

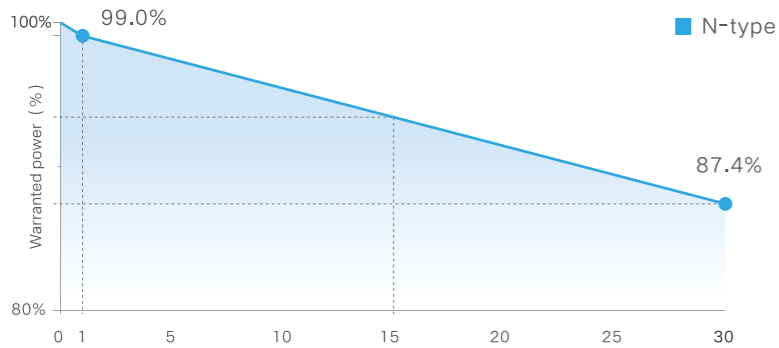
SG-66TG5B 695-720W

N-type TOPCon Solar Double Glass Bifacial Module
Maximum Efficiency 23.2%

Quality Certification



Product Warranty

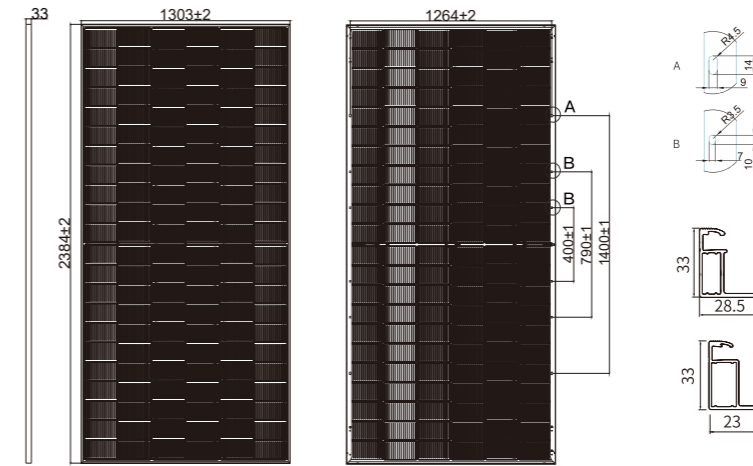


- 15-year Warranty for Materials and Processing
- 30-year Warranty for Extra Linear Power Output
- First Year Power Degradation <1%
- Year 2-30 Power Degradation <0.4%

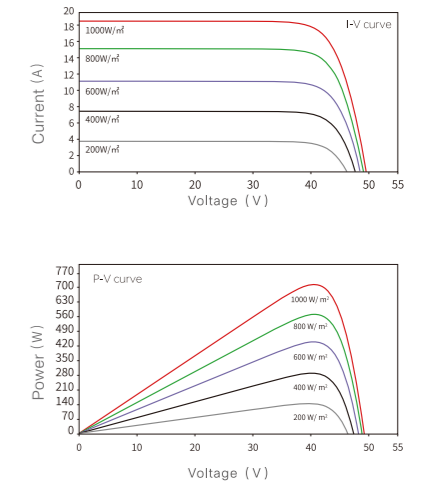
Product Performance

- Lower LCOE**
Effectively reduce system BOS costs and shorten the return on investment cycle
- Superior Low Irradiation Performance**
Higher power output in the morning and evening, cloudy days, haze and other low-light scenarios
- Higher Bifacial Factor**
The rear power output and generation capacity are 20% and 3.5% higher than PERC, respectively
- Non-destructive Laser Cutting Technology**
Achieving better cell strength, lower micro-cracks risk for better product reliability
- 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



Electrical Characteristics

Maximum Power Pmax(W)	695	700	705	710	715	720
Voltage at Maximum Power (Vmp/V)	40.29	40.42	40.53	40.65	40.77	40.89
Current at Maximum Power (Imp/A)	17.25	17.32	17.40	17.47	17.54	17.61
Open Circuit Voltage (Voc/V)	48.24	48.40	48.56	48.73	48.88	49.04
Short Circuit Current (Isc/A)	18.33	18.40	18.46	18.53	18.60	18.67
Module Efficiency (%)	22.4	22.5	22.7	22.9	23.0	23.2
Power Tolerance	0~+3%		Maximum System Voltage	DC1500V		
Maximum Series Fuse Rating	35A		Operating Temperature	-40°C~+85°C		
Bifacial Factor	80±5%					

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

Mechanical Characteristics

Cell Type	N- type mono-crystalline
Cell Orientation	132 (6 x 22)
Dimension	2384 x 1303 x 33mm
Weight	37.0kg
Glass	Dual glass, 2.0mm+2.0mm semi-tempered glass
Frame	Anodized aluminum alloy
Junction Box	IP68 rated
Output Cables	4mm², (+): 350mm, (-): 250mm or customized length
Connector Type	MC4/others
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

Packaging Configuration

Pallet Dimension	1325 x 1121 x 2496tmm
Packing Detail	33 pcs/pallets, 594 pcs/ 40'HQ container

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

CUSTOMIZATION

Composite material frame



- Black
- Blue
- Yellow
- Green
- Purple
- Customized



Anti-acid and alkali corrosion resistance



Excellent insulation performance



High yield strength



Low-temperature deformation resistance



Low carbon footprint

Backsheet

Choose the backsheet that works in different scenarios



Transparent backsheet



White backsheet

Anti-dust



Improved power generation



Lower maintenance costs





Projects

Utility PV

Distributed PV

Residential PV



China's First Ultra-Large Grid-Parity PV Leader Project - Qinghai Geermu 500MW Power Station Project



Anhui Chaohu 50MW PV Power Station Project



China's First 'Pioneering PV' Program Project - Shanxi Datong Coal Mining Subsidence Area National Advanced Technology PV Demonstration Base 50MW Project



Shandong Tengzhou 150MW Agricultural-PV Integration Power Station Project"



 Guizhou Liuzhi Special Zone Tiger Daping 100MW Agricultural-PV Integration Power Station Project




 XPeng 16MW PV Power Station Project




 Anhui Chizhou City Qingyang County 100MW Fishery-PV Integration Project



 Hefei Science and Technology Museum 600kW PV power generation project



 Suzhou Industrial Park 12MW PV Power Generation Project



 Dongfeng MAHLE Thermal Systems Co. Ltd. 5.6MW PV Power Station Project" in Wuhan, Hubei



 Yanfeng Adient (Changshu) Seating Co., Ltd. 11MW PV Power Station Project



 Deli Group's 9.2MW PV Power Generation Project



🏠 Songyang County, Lishui, Zhejiang Huangnan Reservoir PV Town



🏠 Anhui Chuzhou Villa Home PV Power Station Project



🏠 Anhui Yujing Villa PV Power Station Project



🏠 Hunan Youxian Residential Building PV Power Station Project