

Bluesun Solar Module Catalog

2024 V.2

Bluesun Solar Co., Ltd
www.bluesunpv.com

Global Leading PV Manufacturer and PV System Integrator

Bluesun Solar---is one of the solar power solution leading companies in China. Specializing in research and development of solar panel, lithium battery and BMS. Bluesun product has exported to more than 185 countries and regions by the end of 2023. We devote ourselves to providing excellent solar solution to all over world.





Strict Quality Control System

Stringent quality control is the cornerstone of Bluesun's manufacturing. Our customers have come to expect uncompromising quality in our products. To meet this expectation of high quality, we continue to invest in state-of-the-art equipment and professional training for our employees. We are proud of our product quality and their reliable performance even in the most extreme conditions.

ISO 9001: Quality Management System
ISO 14001: Environment Management System
OHSAS 18001: Occupational Health and Safety
IEC TS 62941: Design and manufacture of Crystalline Silicon Photovoltaic Modules

MATERIAL CONTROL

- Stringent Supplier Management
- Spot Check Every Feedstock Batch
- Supplier Quality Engineering
- Automatic Material Filtration and Sorting
- Proper Storage at Fixed Temperature and Humidity
- Incoming-material Quality Assurance

PRODUCTION CONTROL

- 300+ Quality Check Points
- 3*EL Tests
- In-process Quality Control

AFTER PRODUCTION

- Open Box Audit(OBA) Test

Bluesun Trustworthy Quality

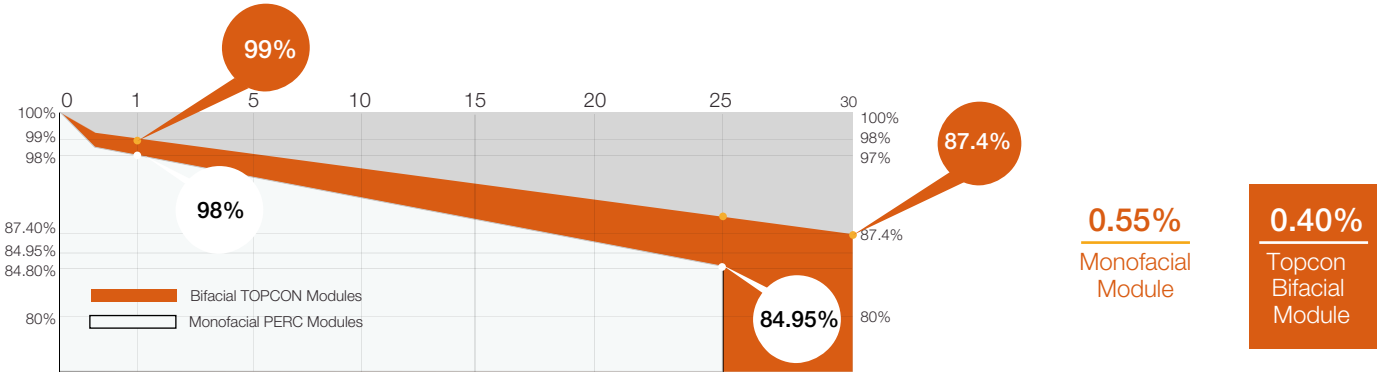
Robust Quality Certified

Bluesun is fully certified by professional third party testing organizations. Like TUV, UL. The modules can adapt to harsh climate environment.



Advanced Warranty Guarantee

FIRST-YEAR POWER WARRANTY OF $\geq 98\%$ (Topcon $\geq 99\%$) FOR PV MODULES
 Based on the advanced mono wafer and anti-LID technology, Bluesun offers a first-year power warranty of $>98\%$ (Topcon $\geq 99\%$) for Py modules



Bluesun Provides a 12-year product warranty and a 25-year performance warranty for all products (a 30-year warranty for Topcon Bifacial products).

Through a comprehensive pre-sales and after-sales service system, Bluesun provides high-quality service to global customers.





HALF CELL

BIFACIAL

MBB

HJT

**LEADING
TECHNOLOGY**

Half Cell Technology

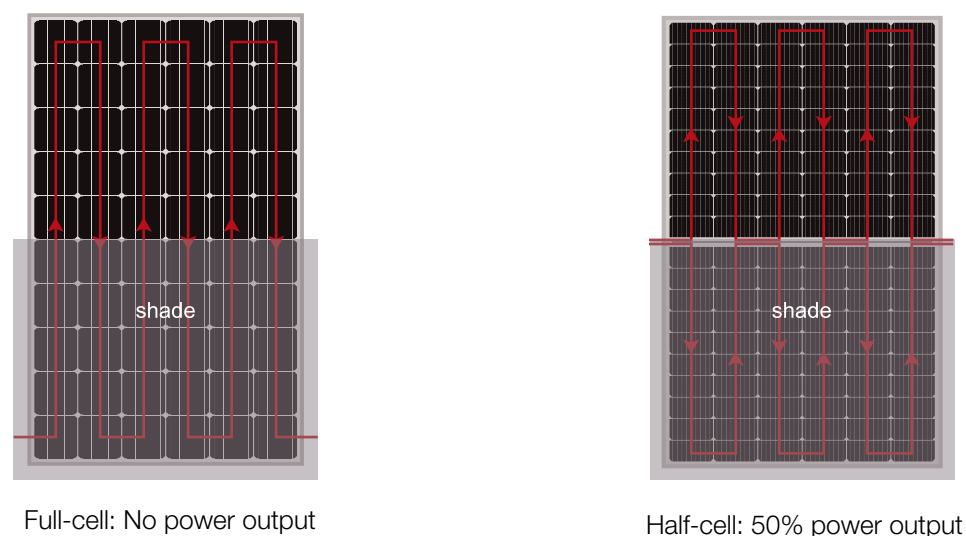
Reducing current and loose:

Current density is reduced by 50%, internal power loss is reduced by 25%, and rated output power is increased.



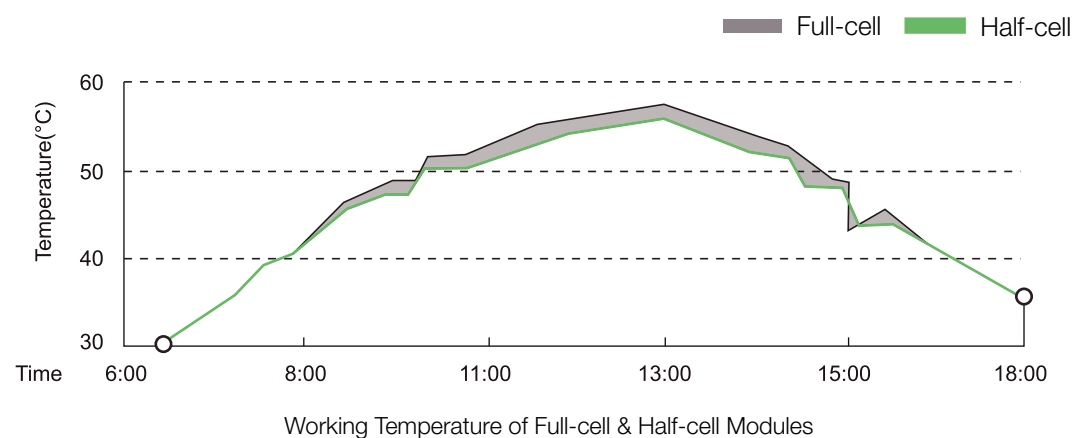
Low shading loss:

The split-type module design effectively reduces the current mismatch caused by shadow, and the power output is enhanced.



Lower working temperature:

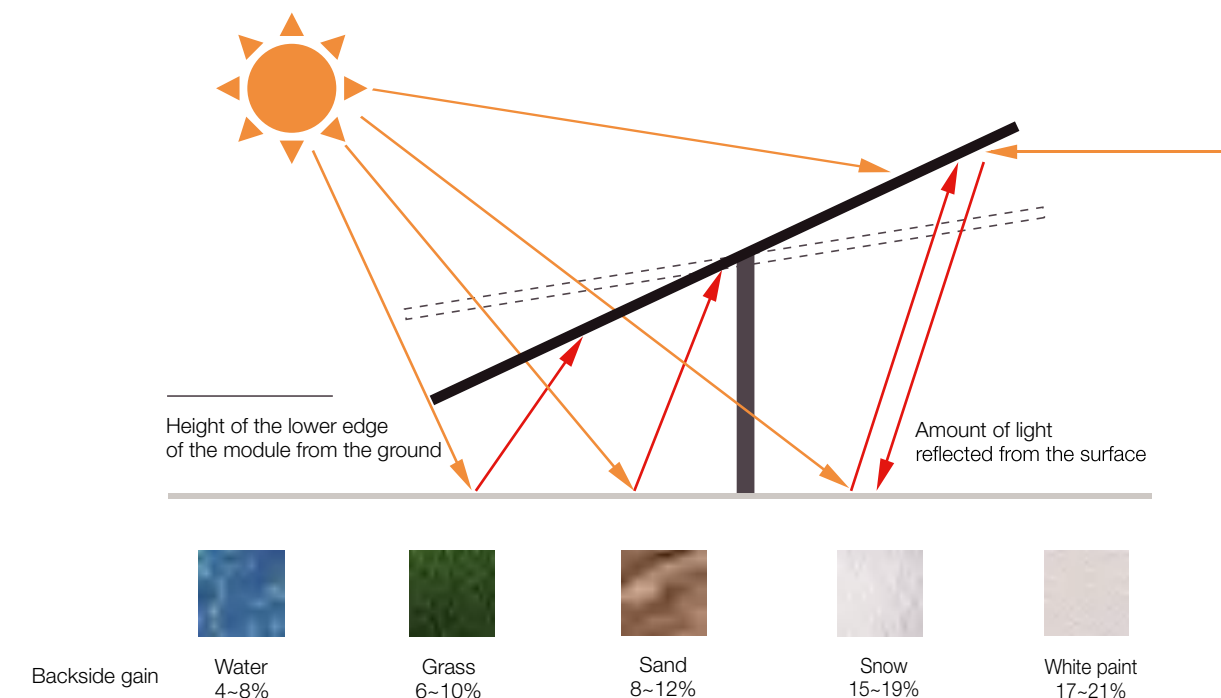
The working temperature of the half-cell modules is 2-3 °C lower than the full-cell modules, greatly ensuring the safe working environment.



Bifacial Technology

Double-sided generation, powerfully energy boost:

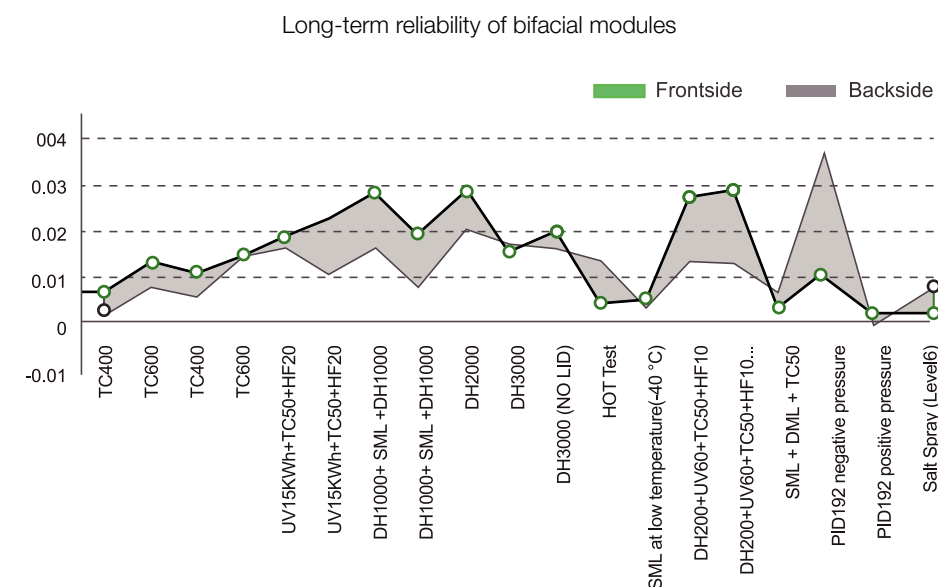
Fully utilizing the reflection and scattering of light, applying to highly reflective scenes such as water, sand, grass and white painted ground. With various types of brackets, more power is obtained, under lower kilowatt-hour costs.



Note: Using the tracker as an example

High reliability:

Bifacial modules demonstrate superior long-term reliability, higher quality, and create more value.

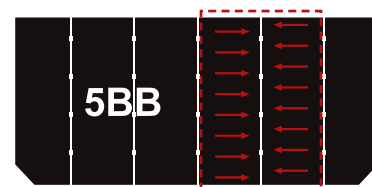


Note: Using the 166mm HEX5 bifacial module as example

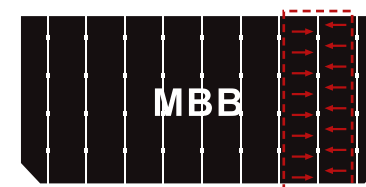
MBB Technology

Reducing string and increasing energy:

An increase in the number of busbar shortens the lateral current collection path, decreases the components R_s (series resistance), and increases the output power.



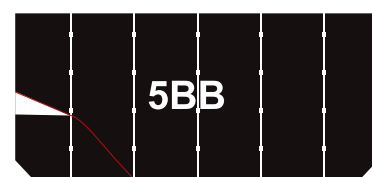
Common Cell



MBB Cell

Reducing busbar loss:

The busbars are more densely distributed, reducing loss.



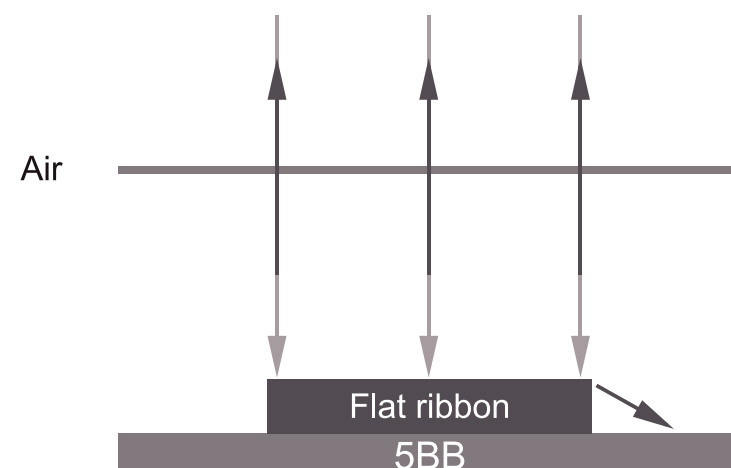
Common Cell



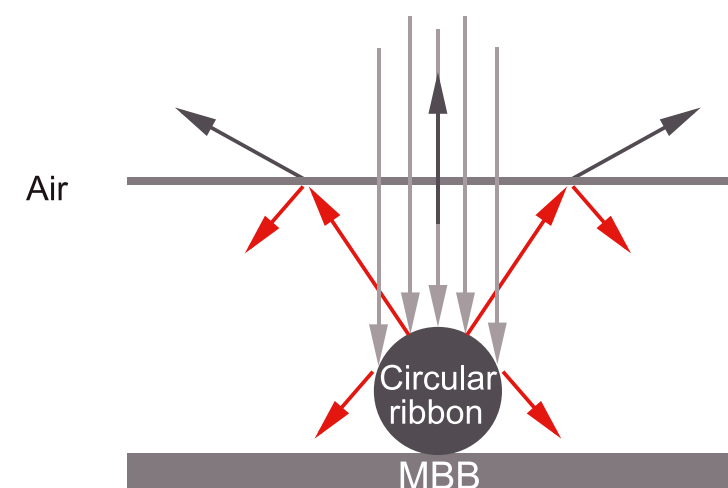
MBB Cell

Improving efficiency:

The circular ribbon reduces the shading area and repeatedly reflects the incident light to enhance the power generation.

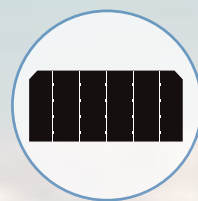


Common Cell



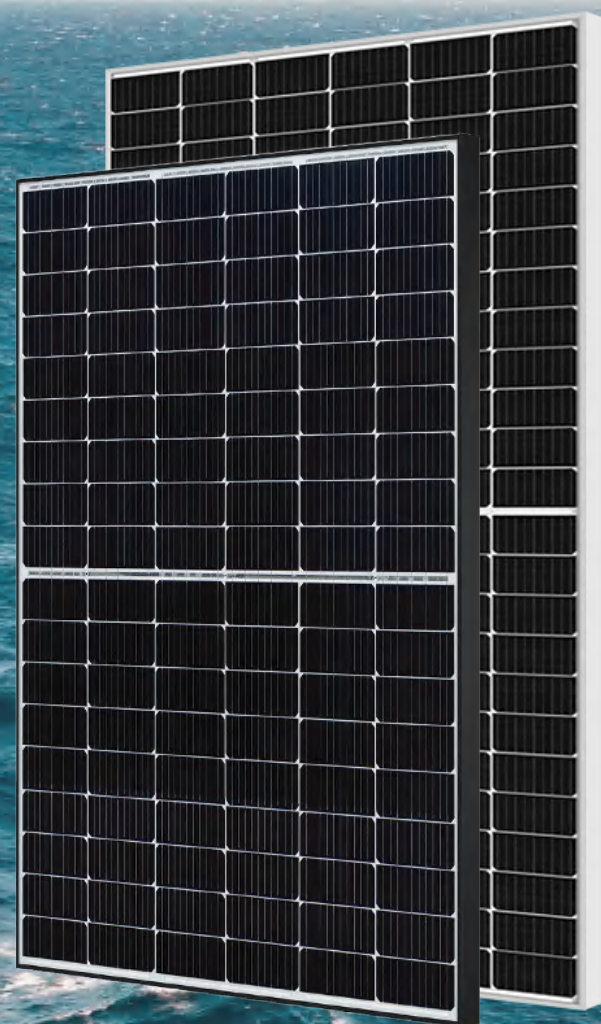
MBB Cell

HEX



HALF CELL

Bluesun HEX series, represents our half-cell product line, which differs in wafer sizes respectively from 182mm to 210mm. HEX series includes HEX5 for 182mm, HEX7 for 182mm Topcon, HEX9 for 210mm HJT.



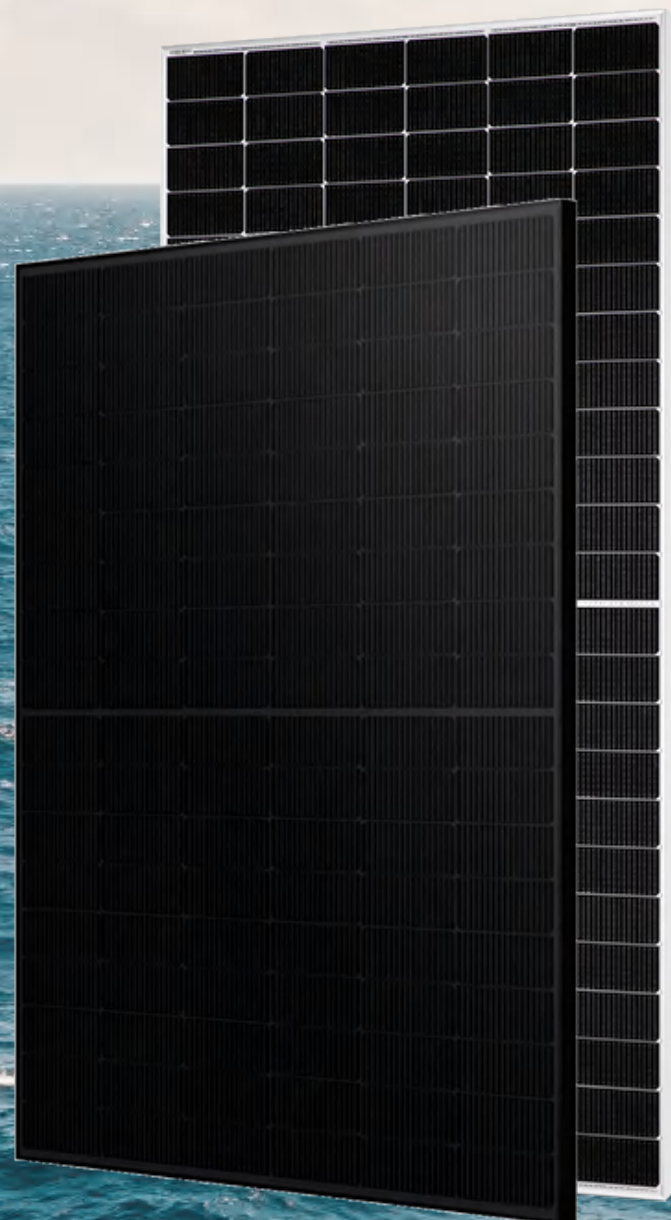
HEX5

MONOFACIAL

560-575W

BIFACIAL

540-560W



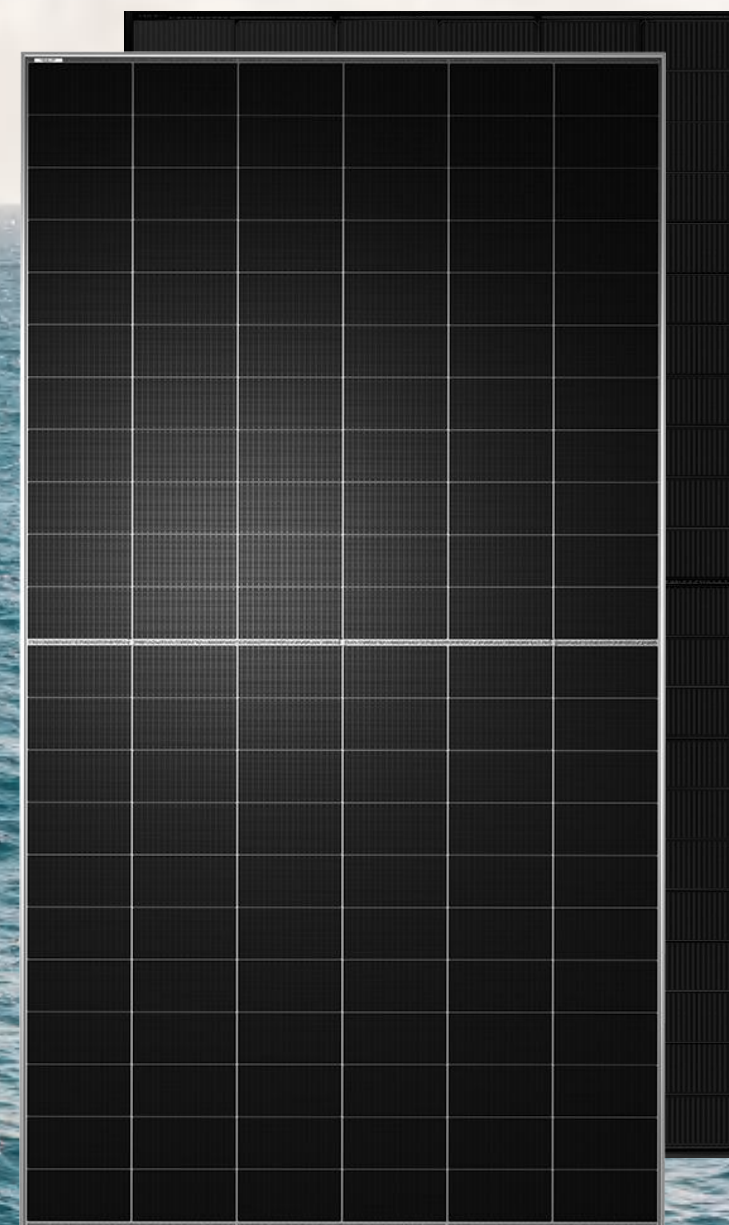
HEX7

TOPCON BIFACIAL

425-450W FULL BLACK

510-530W FULL BLACK

595-615W



HEX9

BIFACIAL HJT

695-720W

695-720W FULL BLACK

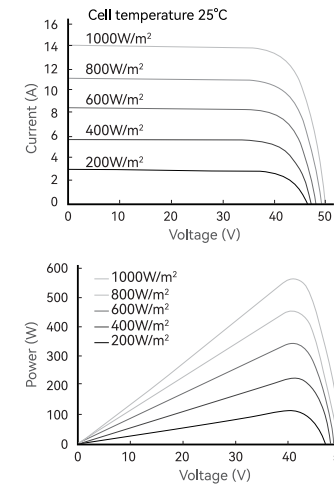
HEX 5

SPECIFICATIONS

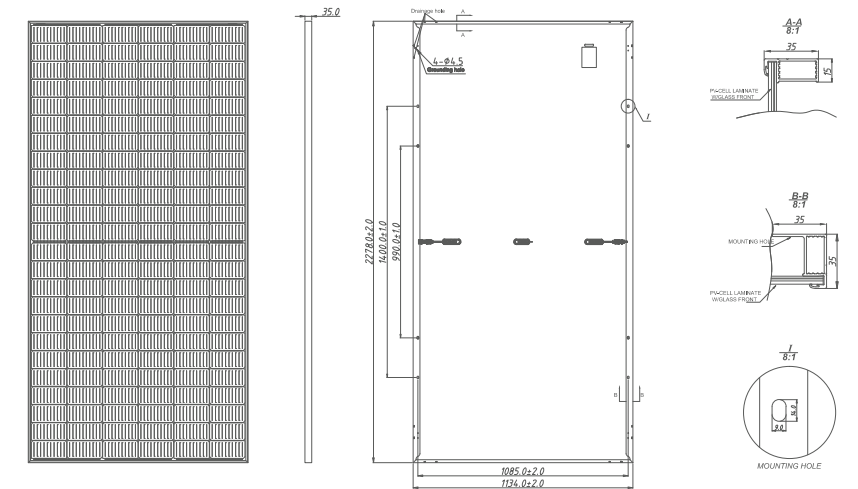
Module Type	BSM560M10-72HPH		BSM565M10-72HPH		BSM570M10-72HPH		BSM575M10-72HPH	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	560	416	565	419	570	422	575	425
Operating Voltage (Vmp/V)	42.33	38.59	42.42	38.66	42.51	38.73	42.60	38.80
Operating Current (Imp/A)	13.23	10.80	13.32	10.88	13.41	10.96	13.50	11.04
Open-Circuit Voltage (Voc/V)	50.00	46.49	50.10	46.58	50.20	46.67	50.30	46.76
Short-Circuit Current (Isc/A)	14.14	11.42	14.24	11.50	14.34	11.58	14.44	11.66
Module Efficiency ηm(%)	21.68		21.87		22.07		22.26	

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

I-V CURVE



ENGINEERING DRAWINGS



182 HEX5 MONOFACIAL

BSM570M10-72HPH

560~575W

HALF CELL PERC

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182*91mm
Cell Arrangement	144 (6*24)
Weight	28.6kg
Module Dimensions	2278*1134*35mm
Cable Length	Portrait 300mm/Landscape 1200mm/Customized
Cable Cross Section Size	TUV: 4mm ² (0.006inches ²)/UL: 12AWG
Front Glass	3.2mm (0.13inches) AR Coating Tempered Glass
No. of Bypass Diodes	3
Packing Configuration	31pcs/carton, 620pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

*Data contained in these specifications is subject to change without notice. Bluesun Solar reserves the right to final interpretation of content.

OPERATING CONDITIONS

Maximun System Voltage	1000/1500V(DC)(IEC)
Operating Temperature	-40°C~ +85°C
Maximun Series Fuse	25A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	T01/LJQ-3-CSY/MC4/MC4-EVO2

TEMPERATURE COEFFICIENT

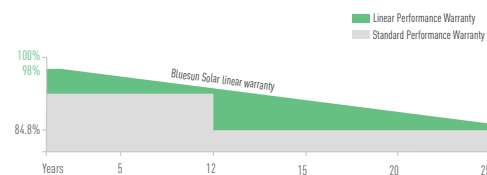
Temperature Coefficient Pmax	-0.36%/°C
Temperature Coefficient Voc	-0.29%/°C
Temperature Coefficient Isc	+0.048%/°C
NMOT	45±2°C

BLUESUN SOLAR CO.,LTD

Bluesun, founded in 2004, as a superior photovoltaic manufacturer, is devoted to the R&D and the production of crystalline silicon solar cells and modules for 17 years. The company has its sales areas spread all over more than 100 countries and regions in the world, and the cumulative historical shipments exceeded 12 GW.

PERFORMANCE WARRANTY

- 12** Enhanced Product Warranty on Materials and Workmanship.
- 25** Linear Power Performance Warranty*
- ±0.55%** Annual Degradation Over 25 years no more than 0.55%



*According to the applicable Bluesun Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES

ISO 9001:2015 / Quality management system
ISO 14001:2015 / Standards for environmental
ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES

IEC 61215 / IEC 61730 / CE / TUV



THE IDEAL SOLUTION FOR:

- Rooftop arrays on residential buildings
- Ground-mounted solar power plants

High module conversion efficiency

MBB Half Cell Technology, Module efficiency up to 22.26%

Withstanding harsh environment

Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline

PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control

Excellent weak light performance

More power output in weak light condition, such as cloudy, morning and sunset

Extended wind and snow load tests

Module certified to withstand extreme wind (2400 Pa) and snow loads (5400 Pa)



182 HEX5 BIFACIAL MODULE

BSM560M10-72HBD 540~560W HALF CELL PERC

BLUESUN SOLAR CO.,LTD

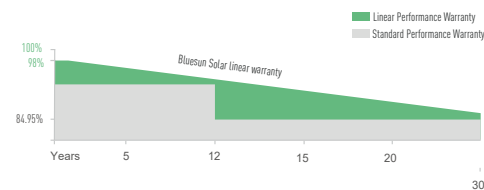
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PERFORMANCE WARRANTY

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30 Linear Power Performance Warranty*

0.45% Annual Degradation Over 30 years no more than 0.45%



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MANAGEMENT SYSTEM CERTIFICATES

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ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES

IEC 61215 / IEC 61730 / UL 61730



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Ground-mounted solar power plants



High module conversion efficiency

Bifacial MBB Half Cell technology, up to 21.7% more yield depends on different conditions



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HEX5

SPECIFICATIONS

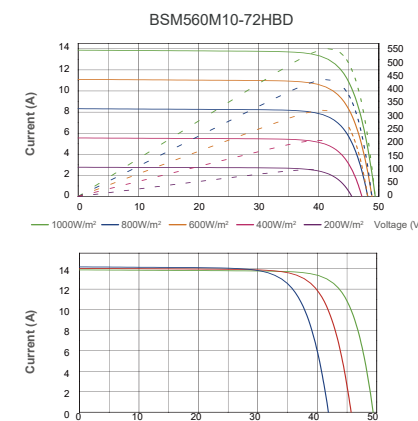
Module Type	BSM540M10-72HBD		BSM545M10-72HBD		BSM550M10-72HBD		BSM555M10-72HBD		BSM560M10-72HBD	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	540	402	545	406	550	410	555	414	560	418
Operating Voltage (Vmp/V)	41.64	38.8	41.80	39.0	41.96	39.10	42.12	39.20	42.28	39.30
Operating Current (Imp/A)	12.97	10.36	13.04	10.41	13.11	10.47	13.18	10.55	13.25	10.63
Open-Circuit Voltage (Voc/V)	49.60	46.7	49.76	46.8	49.92	47.00	50.08	47.10	50.24	47.20
Short-Circuit Current (Isc/A)	13.86	11.17	13.93	11.23	14.00	11.28	14.07	11.34	14.14	11.40
Module Efficiency ηm(%)	20.9		21.1		21.3		21.5		21.7	

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

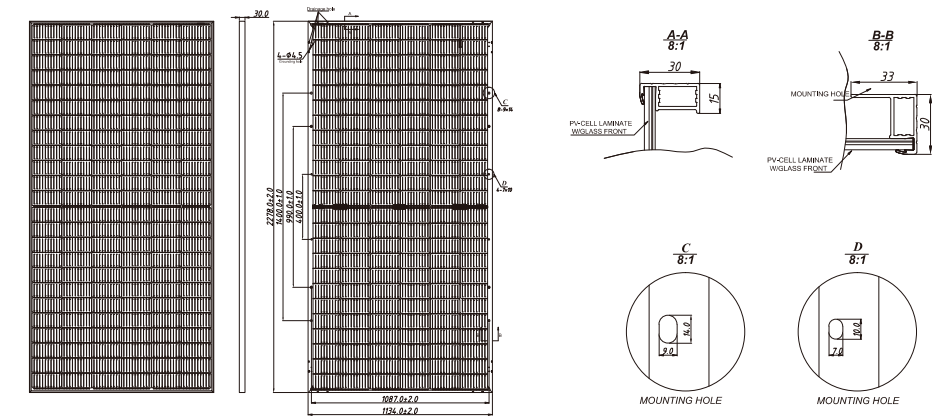
Electrical characteristics with different rear side power gain (refer to 540W front)

Pmax gain	Pmax/W	Vmp/V	Imp/A	Voc/V	Isc/A
5%	567	41.64	13.62	49.60	14.66
10%	594	41.64	14.27	49.60	15.35
15%	621	41.64	14.91	49.60	16.05
20%	648	41.64	15.56	49.60	16.75
25%	675	41.64	16.21	49.60	17.45

I-V CURVE



ENGINEERING DRAWINGS



MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182*182mm
Cell Arrangement	144 (6*24)
Weight	31.8kg
Module Dimensions	2278*1134*30mm
Cable Length	Portrait 300mm/Landscape
Cable Cross Section Size	TUV: 4mm ² (0.006inches ²)/UL: 12AWG
Front Glass	2.0 mm (0.08 inches) AR Coating Tempered Glass
Back Glass	2.0mm (0.08 inches) Glazed Semi-tempered Glass
No. of Bypass Diodes	3
Packing Configuration	36pcs/carton, 720pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

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OPERATING CONDITIONS

Maximum System Voltage	1500V/DC(IEC)
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	30A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	T01/LJQ-3-CSY/MC4/MC4-EVO2
Backside Output Ratio*	70%±5%

*Under STC: Backside Output Ratio= P_{max(rear)} / P_{max(front)}

TEMPERATURE COEFFICIENT

Temperature Coefficient Pmax	-0.35%/°C
Temperature Coefficient Voc	-0.26%/°C
Temperature Coefficient Isc	+0.048%/°C
NMOT	43±2°C



210 HEX6 MONOFACIAL

BSM690G12-66HPH 670~690W HALF CELL PERC

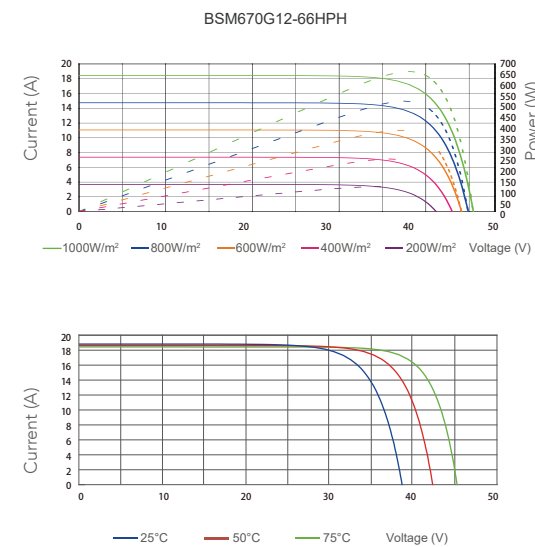
HEX₆

SPECIFICATIONS

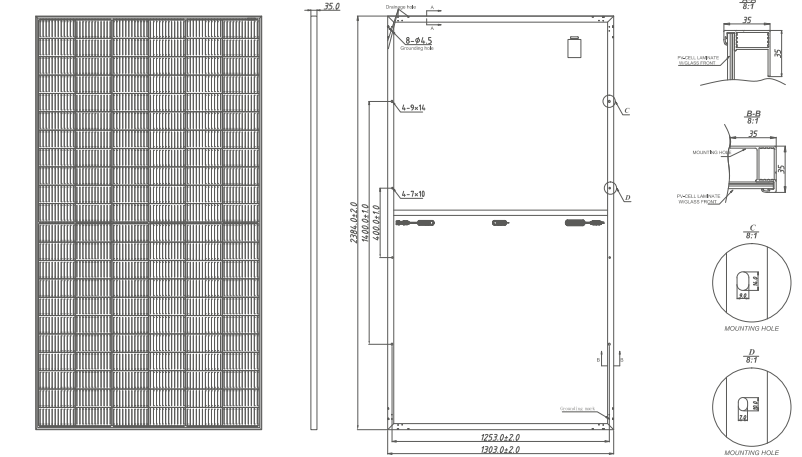
Module Type	BSM670G12-66HPH		BSM675G12-66HPH		BSM680G12-66HPH		BSM685G12-66HPH		BSM690G12-66HPH	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (P _{max} /W)	670	507	675	511	680	515	685	519	690	523
Operating Voltage (V _{mp} /V)	38.6	36.10	38.80	36.30	39.0	36.50	39.20	36.70	39.40	36.90
Operating Current (I _{mp} /A)	17.36	14.02	17.40	14.06	17.44	14.09	17.48	14.12	17.52	14.16
Open-Circuit Voltage (V _{oc} /V)	46.20	43.70	46.40	43.90	46.60	44.10	46.80	44.30	47.00	44.50
Short-Circuit Current (I _{sc} /A)	18.45	14.87	18.49	14.91	18.53	14.94	18.57	14.97	18.61	15.01
Module Efficiency η _m (%)	21.60		21.70		21.90		22.10		22.20	

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

I-V CURVE



ENGINEERING DRAWINGS

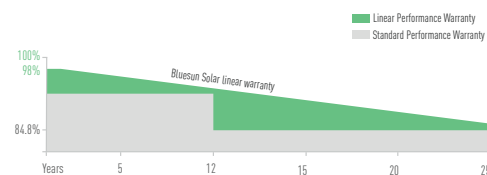


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Extended wind and snow load tests

Module certified to withstand extreme wind (2400 Pa) and snow loads (5400 Pa)

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	210*210mm
Cell Arrangement	132 (6*22)
Weight	34.5kg
Module Dimensions	2384*1303*35mm
Cable Length	Portrait 300mm/Landscape 1200mm/Customized
Cable Cross Section Size	TUV: 4mm ² (0.006inches ²)/UL: 12AWG
Front Glass	3.2mm (0.13inches) AR Coating Tempered Glass
No. of Bypass Diodes	3
Packing Configuration	31pcs/carton, 558pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

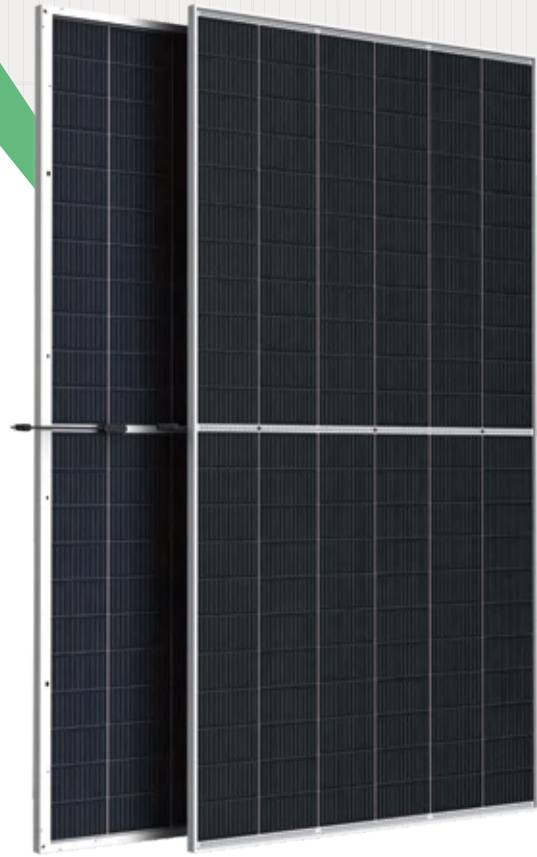
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OPERATING CONDITIONS

Maximun System Voltage	1000/1500V/DC(IEC)
Operating Temperature	-40°C~ +85°C
Maximun Series Fuse	30A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Safety Class	II
Connector	T01/LJQ-3-CSY/MC4/MC4-EV02

TEMPERATURE COEFFICIENT

Temperature Coefficient P _{max}	-0.34%/°C
Temperature Coefficient V _{oc}	-0.25%/°C
Temperature Coefficient I _{sc}	+0.046%/°C
NMOT	43±2°C



HEX²¹⁰₆

BIFACIAL MODULE

BSM670G12-66HBD

665~685W

HALF CELL PERC

BLUESUN SOLAR CO.,LTD

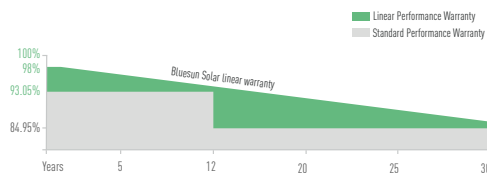
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HEX₆

SPECIFICATIONS

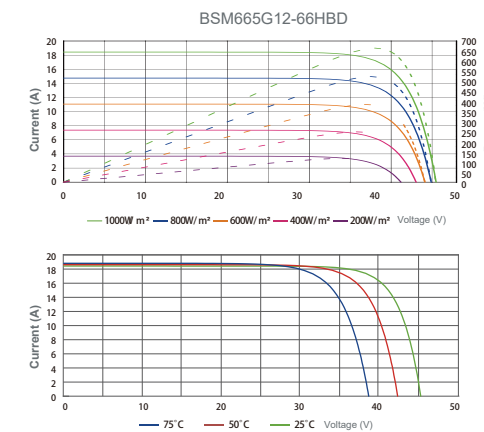
Module Type	BSM665G12-66HBD		BSM670G12-66HBD		BSM675G12-66HBD		BSM680G12-66HBD		BSM685G12-66HBD	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (P _{max} /W)	665	503	670	507	675	511	680	515	685	519
Operating Voltage (V _{mp} /V)	38.4	36.0	38.6	36.10	38.8	36.30	39.0	36.50	39.2	36.70
Operating Current (I _{mp} /A)	17.32	13.99	17.36	14.02	17.40	14.06	17.44	14.10	17.48	14.14
Open-Circuit Voltage (V _{oc} /V)	46.00	43.50	46.20	43.70	46.40	43.90	46.60	44.10	46.80	44.30
Short-Circuit Current (I _{sc} /A)	18.41	14.84	18.45	14.87	18.49	14.90	18.53	14.94	18.57	14.98
Module Efficiency η _m (%)	21.4		21.6		21.7		21.9		22.1	

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

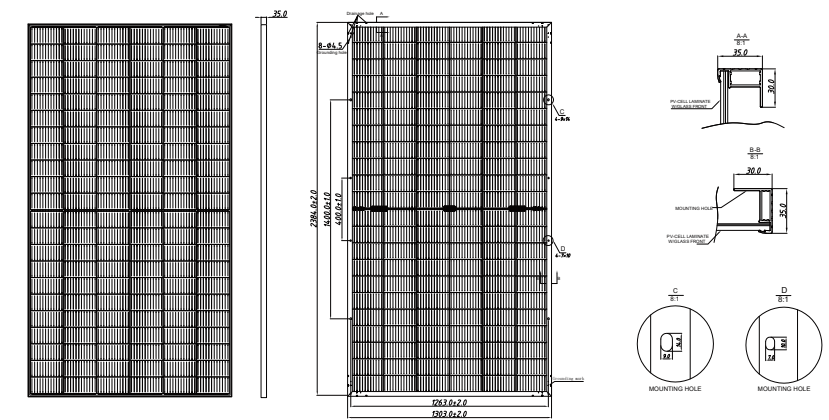
Electrical characteristics with different rear side power gain (refer to 665W front)

P _{max} gain	P _{max} /W	V _{mp} /V	I _{mp} /A	V _{oc} /V	I _{sc} /A
5%	698	38.4	18.18	46.0	19.30
10%	732	38.4	19.06	46.0	20.24
15%	765	38.4	19.92	46.0	21.15
20%	798	38.4	20.78	46.0	22.07
25%	831	38.4	21.64	46.0	22.98

I-V CURVE



ENGINEERING DRAWINGS



MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	210*210mm
Cell Arrangement	132 (6*22)
Weight	38.5kg
Module Dimensions	2384*1303*35mm
Cable Length	4.0mm ² (0.006inches ²), 300mm(11.8inches)
Cable Cross Section Size	TUV: 4mm ² (0.006inches ²)/UL: 12AWG
Front Glass	High transparency solar glass 2.0mm(0.08 inches)
Back Glass	High transparency solar glass 2.0mm(0.08 inches)
No. of Bypass Diodes	3
Packing Configuration	31pcs/carton, 558pcs/40hq
Frame	Silver Anodized Aluminium Alloy
Junction Box	IP68

*Data contained in these specifications is subject to change without notice. Bluesun Solar reserves the right to final interpretation of content.

OPERATING CONDITIONS

Maximun System Voltage	1500V(DC)(IEC)
Operating Temperature	-40°C~ +85°C
Maximun Series Fuse	35A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	MC Compatible
Backside Output Ratio*	70%±5%
*Under STC: Backside Output Ratio = P _{max} (rear) / P _{max} (front)	

TEMPERATURE COEFFICIENT

Temperature Coefficient P _{max}	-0.34%/°C
Temperature Coefficient V _{oc}	-0.25%/°C
Temperature Coefficient I _{sc}	+0.046%/°C
NMOT	43±2°C



108
HEX7

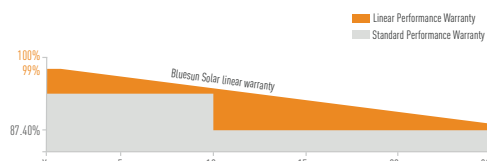
BSM450M10-54HNNH
425-450W
 HALF CELL TOPCON
BIFACIAL

BLUESUN SOLAR CO.,LTD

Bluesun, founded in 2004, as a superior photovoltaic manufacturer, is devoted to the R&D and the production of crystalline silicon solar cells and modules for 17 years. The company has its sales areas spread all over more than 100 countries and regions in the world, and the cumulative historical shipments exceeded 12 GW.

PERFORMANCE WARRANTY

- 12** Enhanced Product Warranty on Materials and Workmanship.
- 30** Linear Power Performance Warranty*
- 0.4%** Annual Degradation Over 30 years no more than 0.4%



*According to the applicable Bluesun Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES

- ISO 9001:2015 / Quality management system
- ISO 14001:2015 / Standards for environmental
- ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES

IEC 61215 / IEC 61730 / CE



THE IDEAL SOLUTION FOR:

- Rooftop arrays on residential buildings
- Ground-mounted solar power plants



High module conversion efficiency

MBB Half Cell Technology, Module efficiency up to 23.04%



Withstanding harsh environment

Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control



Excellent weak light performance

More power output in weak light condition, such as cloudy, morning and sunset



Extended wind and snow load tests

Module certified to withstand extreme wind (2400 Pa) and snow loads (5400 Pa)

HEX7

SPECIFICATIONS

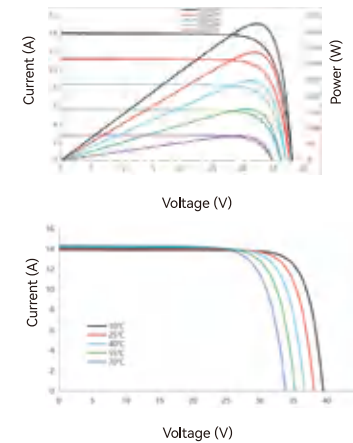
Module Type	BSM425M10-54HNNH		BSM430M10-54HNNH		BSM435M10-54HNNH		BSM440M10-54HNNH		BSM445M10-54HNNH		BSM450M10-54HNNH	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	425	320	430	324	435	328	440	332	445	336	450	340
Operating Voltage (Vmp/V)	31.69	29.5	31.87	29.66	32.06	29.82	32.25	29.98	32.44	30.14	32.63	30.30
Operating Current (Imp/A)	13.42	10.85	13.50	10.92	13.58	11.00	13.66	11.08	13.74	11.16	13.82	11.24
Open-Circuit Voltage (Voc/V)	38.29	36.40	38.48	36.56	38.67	36.72	38.86	36.88	39.05	37.04	39.24	37.20
Short-Circuit Current (Isc/A)	14.16	11.43	14.24	11.49	14.32	11.55	14.40	11.61	14.48	11.67	14.56	11.73
Module Efficiency ηm(%)	21.76		22.02		22.28		22.53		22.79		23.04	

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

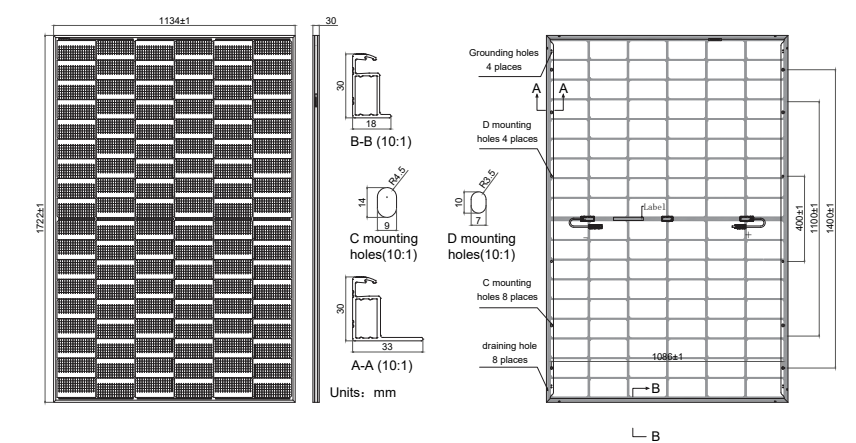
Electrical characteristics with different rear side power gain (refer to 425W front)

Power Gain	5%	10%	15%	20%	25%
Maximum Power (Pmax/W)	446	468	489	510	531
Open-Circuit Voltage (Voc/V)	38.29	38.29	38.29	38.39	38.39
Operating Voltage (Vmp/V)	32.12	32.12	32.12	32.13	32.13
Short-Circuit Current (Isc/A)	14.59	15.15	15.69	16.25	16.81
Operating Current (Imp/A)	13.89	14.58	15.23	15.88	16.53

I-V CURVE



ENGINEERING DRAWINGS



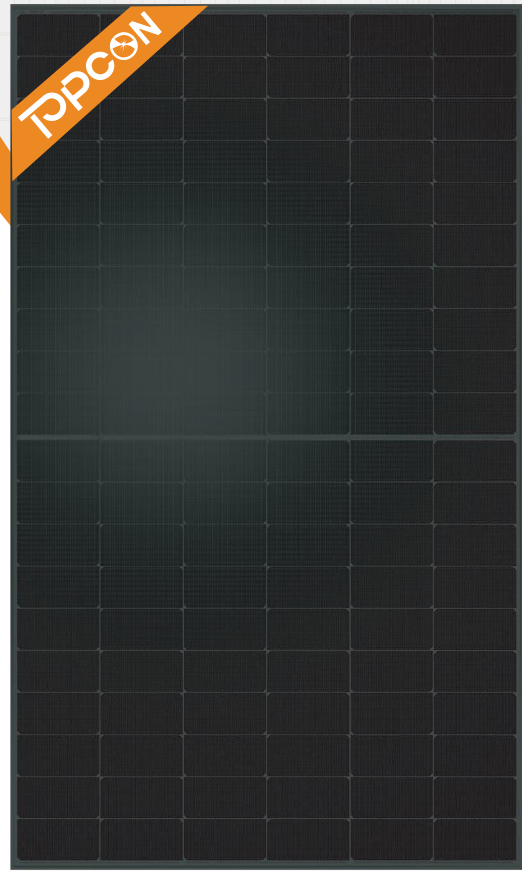
MECHANICAL SPECIFICATION

Cell Type	N-type Topcon
Cell Arrangement	108 (6*18)
Weight	24kg
Module Dimensions	1722*1134*30mm
Cable Length	+400mm, -200mm or ± 1200mm, length can be customized
Cable Cross Section Size	TUV: 4mm² (0.006inches²) / UL: 12AWG
Front Glass	2.0mm high transmittance, AR coated tempered Glass
Rear Glass	2.0mm high transmittance, coated tempered Glass
No. of Bypass Diodes	3
Packing Configuration	36pcs/carton, 936pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

*Data contained in these specifications is subject to change without notice. Bluesun Solar reserves the right to final interpretation of content.

OPERATING CONDITIONS

Maximum System Voltage	1500V DC(IEC)
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	30A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	Stäubli MC4-EVO2
Backside Output Ratio* *Under STC: Backside Output Ratio = Pmax(rear) / Pmax(front)	80%±5%
TEMPERATURE COEFFICIENT	
Temperature Coefficient Pmax	-0.30%/°C
Temperature Coefficient Voc	-0.25%/°C
Temperature Coefficient Isc	+0.046%/°C
NMOT	45±2°C



FULL BLACK₁₂₀ HEX₇

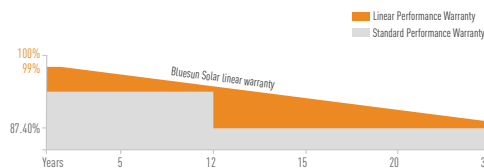
BSM530M10-60HNNH 510-530W HALF CELL TOPCON BIFACIAL

BLUESUN SOLAR CO.,LTD

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PERFORMANCE WARRANTY

- 12** Enhanced Product Warranty on Materials and Workmanship.
- 30** Linear Power Performance Warranty*
- 0.4%** Annual Degradation Over 30 years no more than 0.4%



*According to the applicable Bluesun Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES

ISO 9001:2015 / Quality management system
ISO 14001:2015 / Standards for environmental
ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES

IEC 61215 / IEC 61730 / CE / TUV



THE IDEAL SOLUTION FOR:

- Rooftop arrays on residential buildings
- Ground-mounted solar power plants



High module conversion efficiency

MBB Half Cell Technology, Module efficiency up to 24.48%



Withstanding harsh environment

Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control



Excellent weak light performance

More power output in weak light condition, such as cloudy, morning and sunset



Extended wind and snow load tests

Module certified to withstand extreme wind (2400 Pa) and snow loads (5400 Pa)

SPECIFICATIONS

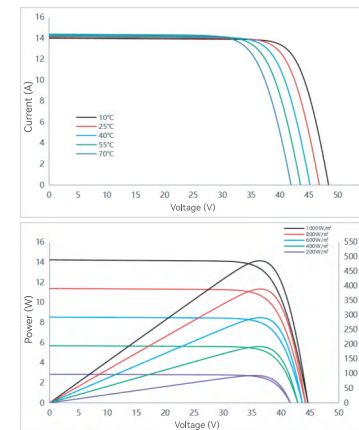
Module Type	BSM510M10-60HNNH		BSM515M10-60HNNH		BSM520M10-60HNNH		BSM525M10-60HNNH		BSM530M10-60HNNH	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (P _{max} /W)	510	385	515	389	520	393	525	397	530	401
Operating Voltage (V _{mp} /V)	36.31	34.29	36.47	34.46	36.63	34.63	36.79	34.80	36.95	34.97
Operating Current (I _{mp} /A)	14.06	11.22	14.14	11.28	14.22	11.34	14.30	11.40	14.38	11.46
Open-Circuit Voltage (V _{oc} /V)	43.70	41.58	43.87	41.75	44.04	41.92	44.21	42.09	44.38	42.26
Short-Circuit Current (I _{sc} /A)	14.80	11.91	14.88	11.97	14.96	12.03	15.04	12.09	15.12	12.15
Module Efficiency η _m (%)	23.56		23.79		24.02		24.25		24.48	

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

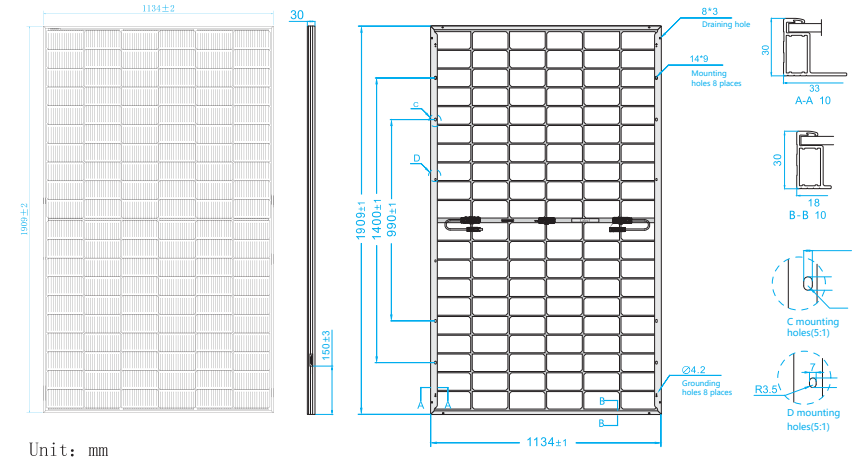
Electrical characteristics with different rear side power gain (refer to 510W front)

Power Gain	Parameter	536	541	546	551	557
5%	Maximum Power (P _{max} /W)	536	541	546	551	557
	Module Efficiency (η _m /%)	24.74	24.98	25.22	25.46	25.71
15%	Maximum Power (P _{max} /W)	561	567	572	578	583
	Module Efficiency (η _m /%)	25.91	26.17	26.42	26.68	26.93
25%	Maximum Power (P _{max} /W)	587	592	598	604	610
	Module Efficiency (η _m /%)	27.09	27.36	27.62	27.89	28.15

I-V CURVE



ENGINEERING DRAWINGS



MECHANICAL SPECIFICATION

Cell Type	N-type Topcon
Cell Arrangement	120 (6*20)
Weight	25.5kg
Module Dimensions	1909x1134x30mm
Cable Length	+400mm, -200mm, length can be customized
Cable Cross Section Size	TUV: 4mm ² (0.006inches ²)/UL: 12AWG
Front Glass	2.0mm high transmittance, AR coated glass
Rear Glass	2.0mm semi-tempered glass
No. of Bypass Diodes	3
Packing Configuration	36pcs/carton, 864pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

*Data contained in these specifications is subject to change without notice. Bluesun Solar reserves the right to final interpretation of content.

OPERATING CONDITIONS

Maximum System Voltage	1500V DC(IEC)
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	30A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	T01/LJQ-3-CSY/MC4/MC4-EVO2
Backside Output Ratio*	80%±5%
*Under STC: Backside Output Ratio = P _{max} (rear) / P _{max} (front)	

TEMPERATURE COEFFICIENT

Temperature Coefficient P _{max}	-0.29%/°C
Temperature Coefficient V _{oc}	-0.26%/°C
Temperature Coefficient I _{sc}	+0.045%/°C
NMOT	45±2°C



132
HEX7
BIFACIAL MODULE

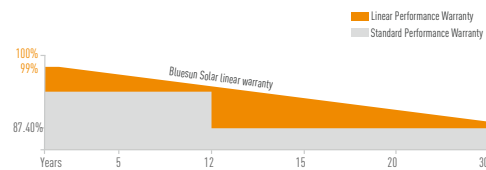
BSM610M10-72HNN
595~615W
HALF CELL TOPCON
BIFACIAL

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PERFORMANCE WARRANTY

- 12** Enhanced Product Warranty on Materials and Workmanship.
- 30** Linear Power Performance Warranty*
- 0.4** Annual Degradation Over 30 years no more than 0.4%



*According to the applicable Bluesun Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES

- ISO 9001:2015 / Quality management system
- ISO 14001:2015 / Standards for environmental
- ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES

IEC 61215 / IEC 61730 / CE / TUV



THE IDEAL SOLUTION FOR:

- Rooftop arrays on residential buildings
- Ground-mounted solar power plants

- High module conversion efficiency**
MBB Half Cell Technology, Module efficiency up to 23.81%
- Withstanding harsh environment**
Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline
- PID Resistance**
Excellent Anti-PID performance guarantee via optimized mass-production process and materials control
- Excellent weak light performance**
More power output in weak light condition, such as cloudy, morning and sunset
- Extended wind and snow load tests**
Module certified to withstand extreme wind (2400 Pa) and snow loads (5400 Pa)

HEX7

SPECIFICATIONS

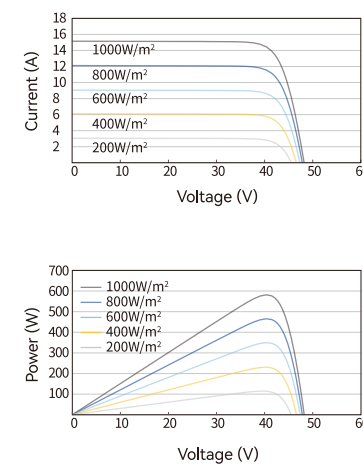
Module Type	BSM595M10-72HNN		BSM600M10-72HNN		BSM605M10-72HNN		BSM610M10-72HNN		BSM615M10-72HNN	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	595	449	600	453	605	457	610	461	615	465
	49.74	47.51	49.94	47.69	50.14	47.87	50.34	48.05	50.54	48.23
	15.29	12.35	15.35	12.40	15.41	12.45	15.47	12.50	15.53	12.55
Operating Voltage (Vmp/V)	41.10	38.57	41.26	38.72	41.42	38.87	41.58	39.02	41.74	39.17
Operating Current (Imp/A)	14.48	11.68	14.54	11.73	14.60	11.78	14.66	11.83	14.72	11.88
Module Efficiency (ηm%)	23.03		23.23		23.42		23.61		23.81	

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

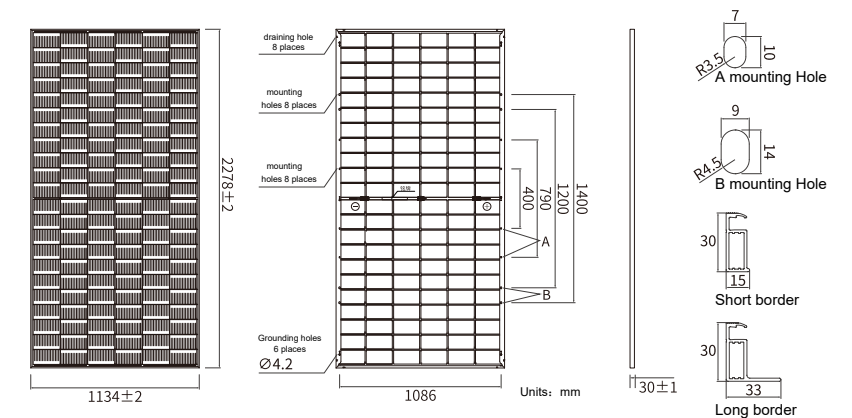
Electrical characteristics with different rear side power gain

Power Gain	Parameter	BSM595M10-72HNN	BSM600M10-72HNN	BSM605M10-72HNN	BSM610M10-72HNN	BSM615M10-72HNN
5%	Maximum Power (Pmax/W)	625	630	635	641	646
	Module Efficiency (ηr%)	24.18	24.39	24.59	24.79	25.00
15%	Maximum Power (Pmax/W)	655	660	666	671	677
	Module Efficiency (ηr%)	25.34	25.55	25.76	25.98	26.19
25%	Maximum Power (Pmax/W)	684	690	696	702	707
	Module Efficiency (ηr%)	26.49	26.71	26.93	27.16	27.38

I-V CURVE



ENGINEERING DRAWINGS



MECHANICAL SPECIFICATION

Cell Type	N-type Topcon
Cell Arrangement	132(6*22)
Weight	32.5kg
Module Dimensions	2278±2*1134±2*30±1mm
Cable Length	+400mm, -200mm or ± 1200mm, length can be customized
Cable Cross Section Size	TUV: 4mm² (0.006inches²) / UL: 12AWG
Front Glass	2.0mm high transmittance, AR coated tempered Glass
Rear Glass	2.0mm high transmittance, coated tempered Glass
No. of Bypass Diodes	3
Packing Configuration	36pcs/carton, 720pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

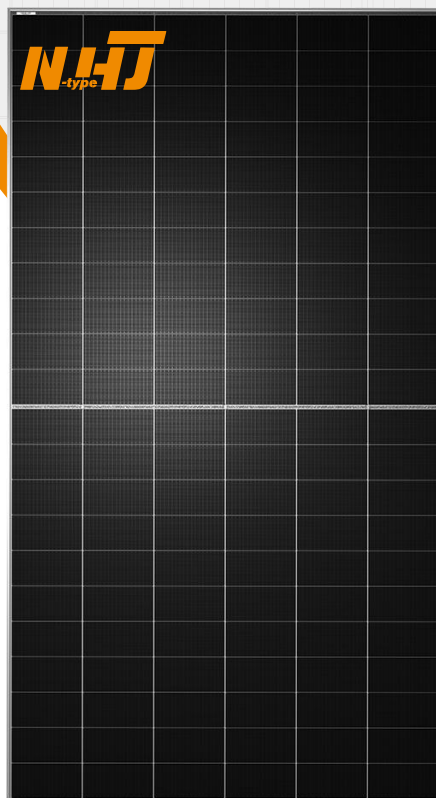
*Data contained in these specifications is subject to change without notice. Bluesun Solar reserves the right to final interpretation of content.

OPERATING CONDITIONS

Maximum System Voltage	1500V DC
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	30A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	T01/LJQ-3-CSY/MC4/MC4-EVO2
Backside Output Ratio*	80%±5%
*Under STC: Backside Output Ratio = Pmax(rear) / Pmax(front)	

TEMPERATURE COEFFICIENT

Temperature Coefficient Pmax	-0.29%/°C
Temperature Coefficient Voc	-0.25%/°C
Temperature Coefficient Isc	+0.045%/°C
NMOT	45±2°C



132
HEX9
BIFACIAL MODULE

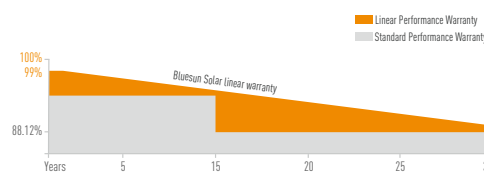
BSM720G12-66HNN
695-720
HALF CELL N-HJT
BIFACIAL

BLUESUN SOLAR CO.,LTD

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PERFORMANCE WARRANTY

- 15** Enhanced Product Warranty on Materials and Workmanship.
- 30** Linear Power Performance Warranty*
- 0.375%** Annual Degradation Over 30 years no more than 0.375%



*According to the applicable Bluesun Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES

- ISO 9001:2015 / Quality management system
- ISO 14001:2015 / Standards for environmental
- ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES

IEC 61215 / IEC 61730 / TUV / CE



THE IDEAL SOLUTION FOR:

-  Rooftop arrays on residential buildings
-  Ground-mounted solar power plants

 **High module conversion efficiency**

MBB Half Cell Technology, Module efficiency up to 23.18%

 **Withstanding harsh environment**

Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline

 **PID Resistance**

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control

 **Excellent weak light performance**

More power output in weak light condition, such as cloudy, morning and sunset

 **Extended wind and snow load tests**

Module certified to withstand extreme wind (2400 Pa) and snow loads (5400 Pa)

HEX9

SPECIFICATIONS

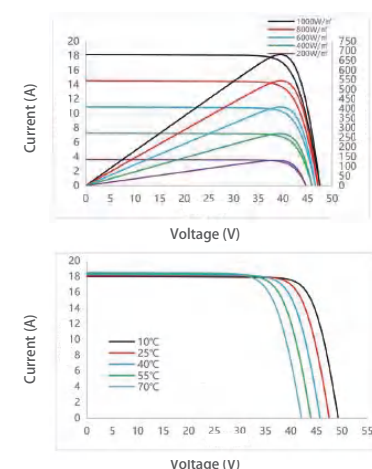
Module Type	BSM695G12-66HNN		BSM700G12-66HNN		BSM705G12-66HNN		BSM710G12-66HNN		BSM715G12-66HNN		BSM720G12-66HNN	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	695	530	700	534	705	538	710	542	715	546	720	550
Operating Voltage (Vmp/V)	40.30	37.60	40.50	37.80	40.70	38.00	40.90	38.20	41.10	38.40	41.30	38.60
Operating Current (Imp/A)	17.25	14.10	17.29	14.13	17.33	14.16	17.37	14.19	17.41	14.22	17.45	14.25
	48.00	45.50	48.20	45.70	48.40	45.90	48.60	46.10	48.80	46.30	49.00	46.50
Module Efficiency ηm(%)	18.28	14.76	18.32	14.80	18.36	14.84	18.4	14.88	18.44	14.92	18.48	14.96
	22.37		22.53		22.7		22.86		23.02		23.18	

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

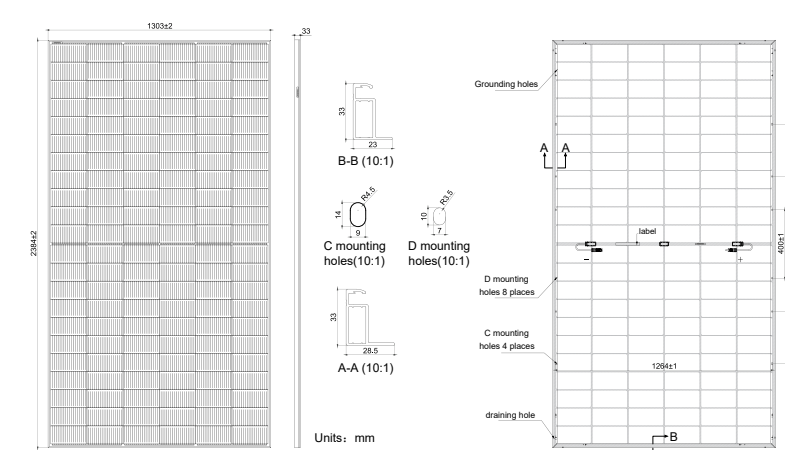
Electrical characteristics with different rear side power gain (refer to 695W front)

Power Gain	5%	10%	15%	20%	25%
Maximum Power (Pmax/W)	730	765	799	834	869
Open-Circuit Voltage (Voc/V)	47.90	47.90	47.90	48.00	48.00
Operating Voltage (Vmp/V)	40.30	40.30	40.30	40.40	40.40
Short-Circuit Current (Isc/A)	18.84	19.56	20.25	20.98	21.69
Operating Current (Imp/A)	18.12	18.99	19.83	20.65	21.51

I-V CURVE



ENGINEERING DRAWINGS



MECHANICAL SPECIFICATION

Cell Type	N type Heterojunction Cell
Cell Arrangement	132 (6*22)
Weight	37.5kg
Module Dimensions	2384*1303*33mm
Cable Length	+400mm, -200mm or ± 1200mm, length can be customized
Cable Cross Section Size	TUV: 4mm² (0.006inches²) /UL: 12AWG
Front Glass	2.0mm high transmittance, AR semi-tempered glass
Rear Glass	2.0mm high transmittance, semi-tempered glass
No. of Bypass Diodes	3
Packing Configuration	33pcs/carton, 594pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

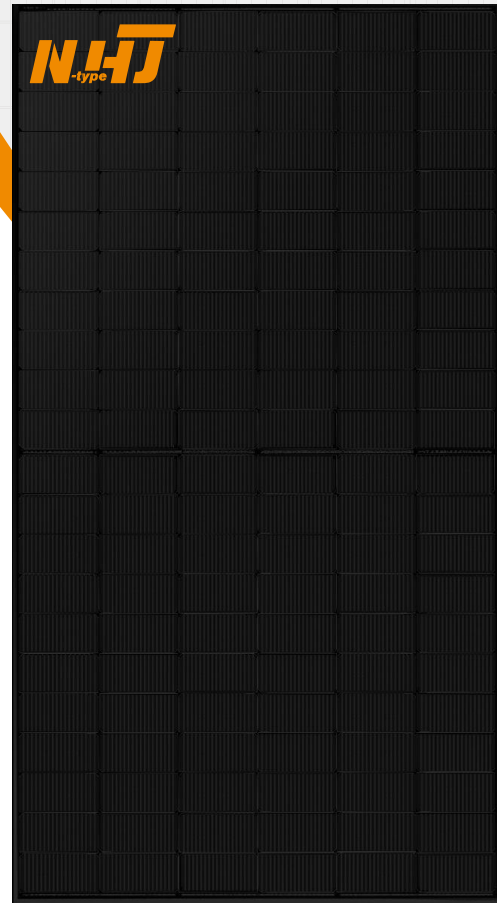
*Data contained in these specifications is subject to change without notice. Bluesun Solar reserves the right to final interpretation of content.

OPERATING CONDITIONS

Maximum System Voltage	1500V DC
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	30A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	MC4/MC4-EVO2
Backside Output Ratio*	80%±5%
*Under STC: Backside Output Ratio = Pmax(rear) / Pmax(front)	

TEMPERATURE COEFFICIENT

Temperature Coefficient Pmax	-0.26%/°C
Temperature Coefficient Voc	-0.24%/°C
Temperature Coefficient Isc	+0.04%/°C
NMOT	44±2°C



FULL BLACK 132 HEX₉ BIFACIAL MODULE

BSM720G12-66HNN 695-720 HALF CELL N-HJT BIFACIAL

SPECIFICATIONS

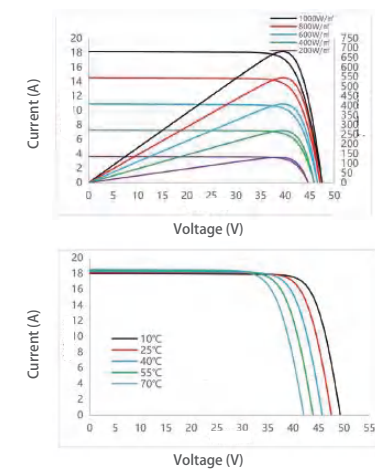
Module Type	BSM695G12-66HNN		BSM700G12-66HNN		BSM705G12-66HNN		BSM710G12-66HNN		BSM715G12-66HNN		BSM720G12-66HNN	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (P _{max} /W)	695	530	700	534	705	538	710	542	715	546	720	550
Operating Voltage (V _{mp} /V)	40.30	37.60	40.50	37.80	40.70	38.00	40.90	38.20	41.10	38.40	41.30	38.60
Operating Current (I _{mp} /A)	17.25	14.10	17.29	14.13	17.33	14.16	17.37	14.19	17.41	14.22	17.45	14.25
Open-Circuit Voltage (V _{oc} /V)	48.00	45.50	48.20	45.70	48.40	45.90	48.60	46.10	48.80	46.30	49.00	46.50
Short-Circuit Current (I _{sc} /A)	18.28	14.76	18.32	14.80	18.36	14.84	18.4	14.88	18.44	14.92	18.48	14.96
Module Efficiency η _m (%)	22.37		22.53		22.7		22.86		23.02		23.18	

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

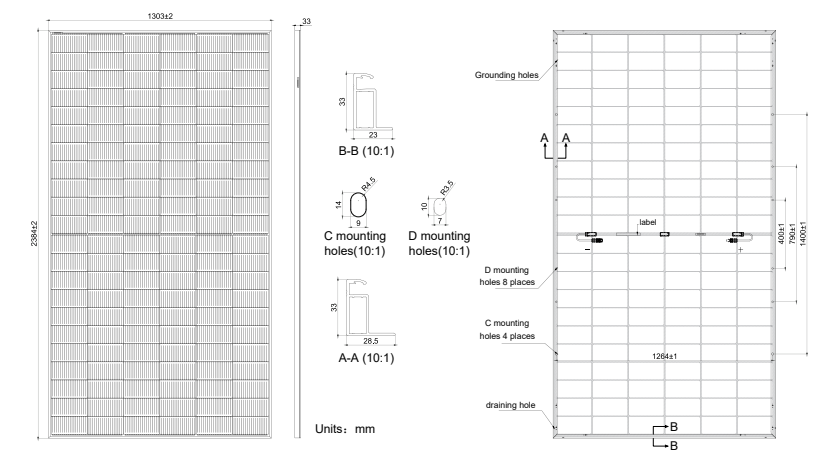
Electrical characteristics with different rear side power gain (refer to 695W front)

Power Gain	5%	10%	15%	20%	25%
Maximum Power (P _{max} /W)	730	765	799	834	869
Open-Circuit Voltage (V _{oc} /V)	47.90	47.90	47.90	48.00	48.00
Operating Voltage (V _{mp} /V)	40.30	40.30	40.30	40.40	40.40
Short-Circuit Current (I _{sc} /A)	18.84	19.56	20.25	20.98	21.69
Operating Current (I _{mp} /A)	18.12	18.99	19.83	20.65	21.51

I-V CURVE



ENGINEERING DRAWINGS



MECHANICAL SPECIFICATION

Cell Type	N type Heterojunction Cell
Cell Arrangement	132 (6*22)
Weight	37.5kg
Module Dimensions	2384*1303*33mm
Cable Length	+400mm, -200mm or ± 1200mm, length can be customized
Cable Cross Section Size	TUV: 4mm ² (0.006inches ²)/UL: 12AWG
Front Glass	2.0mm high transmittance, AR semi-tempered glass
Rear Glass	2.0mm high transmittance, semi-tempered glass
No. of Bypass Diodes	3
Packing Configuration	33pcs/carton, 594pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

*Data contained in these specifications is subject to change without notice. Bluesun Solar reserves the right to final interpretation of content.

OPERATING CONDITIONS

Maximum System Voltage	1500V DC
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	30A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	MC4/MC4-EVO2
Backside Output Ratio* *Under STC: Backside Output Ratio = P _{max} (rear) / P _{max} (front)	80%±5%

TEMPERATURE COEFFICIENT

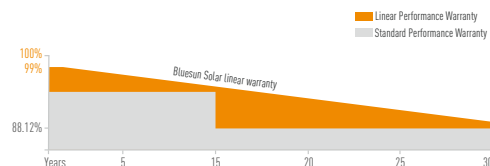
Temperature Coefficient P _{max}	-0.26%/°C
Temperature Coefficient V _{oc}	-0.24%/°C
Temperature Coefficient I _{sc}	+0.04%/°C
NMOT	44±2°C

BLUESUN SOLAR CO.,LTD

Bluesun, founded in 2004, as a superior photovoltaic manufacturer, is devoted to the R&D and the production of crystalline silicon solar cells and modules for 17 years. The company has its sales areas spread all over more than 100 countries and regions in the world, and the cumulative historical shipments exceeded 12 GW.

PERFORMANCE WARRANTY

- 15** Enhanced Product Warranty on Materials and Workmanship.
- 30** Linear Power Performance Warranty*
- 0.375%** Annual Degradation Over 30 years no more than 0.375%



*According to the applicable Bluesun Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES

- ISO 9001:2015 / Quality management system
- ISO 14001:2015 / Standards for environmental
- ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES

- IEC 61215 / IEC 61730 / TUV / CE



THE IDEAL SOLUTION FOR:

- Floftop arrays on residential buildings
- Ground-mounted solar power plants



High module conversion efficiency

MBB Half Cell Technology, Module efficiency up to 23.18%



Withstanding harsh environment

Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control



Excellent weak light performance

More power output in weak light condition, such as cloudy, morning and sunset



Extended wind and snow load tests

Module certified to withstand extreme wind (2400 Pa) and snow loads (5400 Pa)



GREEN THE WORLD