TOPCON

108
HEX7

BSM450M10-54HNH
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

25 Enhanced Product Warranty on Materials and Workmanship.

30 Linear Power Performance Warranty*

0.4 Annual Degradation Over 30 years no more than 0.4%

Linear Performance Warranty
Standard Performance Warranty

100%
99%
Bluesun Solar linear warranty
87.40%
Years   25   30
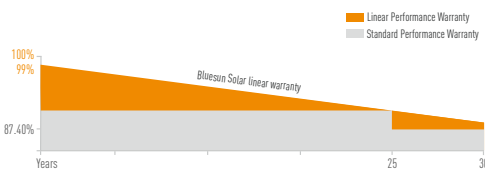
*According to the applicable Bluesun Solar Limited Warranty Statement.

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   TUV NORD

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 22.79%

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)

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*Release BSMXXM10-54HNH(425-445W)-2023-09-Rev01-EN

SPECIFICATIONS

| Module Type		BSM425M10-54HNH		BSM430M10-54HNH		BSM435M10-54HNH		BSM440M10-54HNH		BSM445M10-54HNH		BSM450M10-54HNH	
		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 Temperatue 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
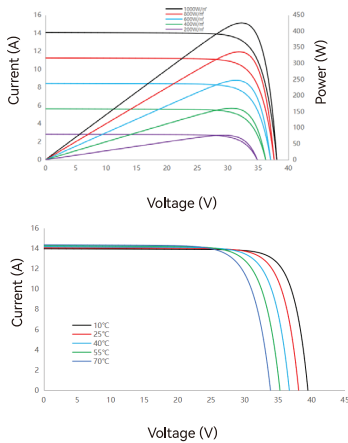
ENGINEERING DRAWINGS

Units: mm
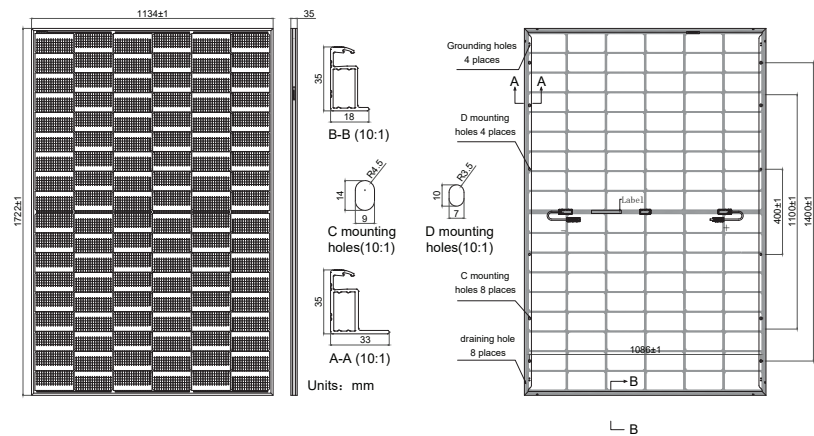
MECHANICAL SPECIFICATION

Cell Type	N-type Topcon
Cell Arrangement	108 (6*18)
Weight	22.5kg
Module Dimensions	1722*1134*35mm
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	31pcs/carton, 806pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

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* *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

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

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*Release BSMXXM10-54HNH(425-450W)-2024-02-Rev01-EN