



182  
**HEX5**  
MONOFACIAL MODULE

# BSM425G12-54HPH

## 405~425W

### HALF CELL PERC BIFACIAL

#### BLUESUN SOLAR CO.,LTD

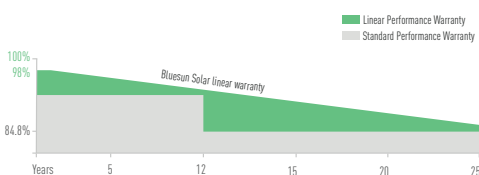
Bluesun, founded in 2004, as a superior photovoltaic manufacturer, is devoted to the R&D and the production of crystalline silicon solar cells and modules for 17 years. The company has its sales areas spread all over more than 100 countries and regions in the world, and the cumulative historical shipments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

#### PERFORMANCE WARRANTY

**12** Enhanced Product Warranty on Materials and Workmanship.

**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 / UL1703



#### THE IDEAL SOLUTION FOR:



Rooftop arrays on residential buildings



High module conversion efficiency

MBB Half Cell Technology, new circuit design, lower internal current, lower Rs loss



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

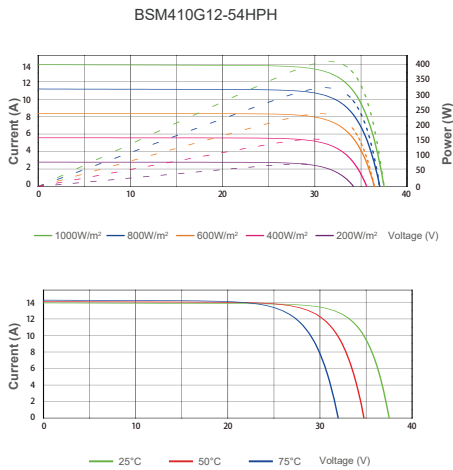
Module Type	BSM405G12-54HPH		BSM410G12-54HPH		BSM415G12-54HPH		BSM420G12-54HPH		BSM425G12-54HPH	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	405	302	410	306	415	310	420	314	425	318
Operating Voltage (Vmp/V)	31.24	29.2	31.43	29.3	31.64	29.6	31.84	29.8	32.04	30.0
Operating Current (Imp/A)	12.97	10.36	13.05	10.42	13.13	10.48	13.21	10.54	13.29	10.60
Open-Circuit Voltage (Voc/V)	37.25	35.10	37.50	35.30	37.75	35.50	38.00	35.70	38.25	35.90
Short-Circuit Current (Isc/A)	13.86	11.17	13.94	11.24	14.02	11.30	14.10	11.36	14.18	11.42
Module Efficiency ηm(%)	20.7		21.0		21.3		21.5		21.7	

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

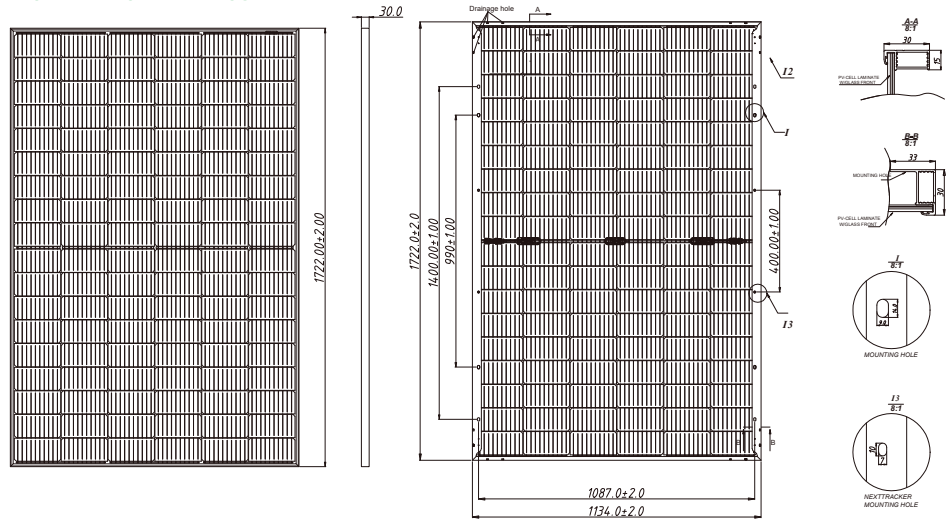
## REAR SIDE POWER GAIN(REFERENCE TO 410W FRONT)

Pmax gain	5%	10%	15%	20%	25%
Pmax/W	431	451	472	492	513
Vmpp/V	31.43	31.43	31.43	31.43	31.43
Imp/A	13.70	14.36	15.01	15.66	16.31
Voc/V	37.50	37.50	37.50	37.50	37.50
Isc/A	14.65	15.35	16.04	16.74	17.44

## I-V CURVE



## ENGINEERING DRAWINGS



## MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182*182mm
Cell Arrangement	108 (6*18)
Weight	25.5kg
Module Dimensions	1722*1134*30mm
Cable Length	300mm or 1200mm
Cable Cross Section Size	TUV: 4mm <sup>2</sup> (0.006inches <sup>2</sup> )/UL: 12AWG
Front Glass	2.0mm AR Coating Semi-tempered Glass
Rear Glass	2.0mm Glazed Semi-tempered Glass
No. of Bypass Diodes	3
Packing Configuration	36pcs/carton, 936pcs/40hq(EU), 720pcs/40hq(USA)
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*	70%±5%
*Under STC: Backside Output Ratio = Pmax(rear) / Pmax(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

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