



TSBHNM-108HVG

**425-445W**

N-type TOPCon Bifacial Dual Glass Solar Module

- Natural zero LID with N-type solar cell
- Aesthetic design with unique full black appearance
- Maximum 30% more yield with high bifaciality
- Excellent low-light performance & temperature coefficient
- High module quality ensures long-term reliability
- The best choice for residential & C&I project



### System & Product Certifications

IEC 61215 / IEC 61730

ISO 9001: Quality Management System

ISO 14001: Environment Management System

ISO 45001: Occupational Health and Safety

amfori BSCI Corporate Social Responsibility



### Product Warranty & Insurance



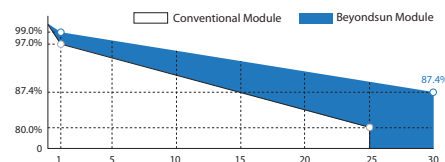
12-year Warranty for Material & Workmanship



30-year Warranty for Linear Power Output



Product & Performance Insured by LLOYD'S & PingAn



### The Ideal Solution for



Residential rooftop projects



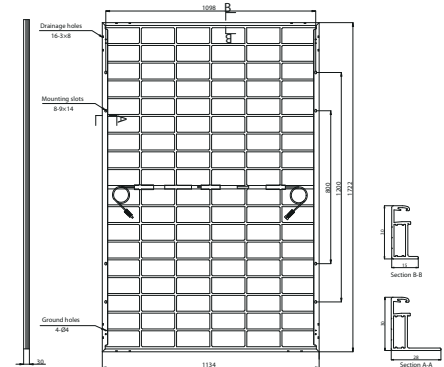
Commercial / industrial rooftop projects

# POWER TSBHNM-108HVG 425-445W

## Mechanical Parameters

Cell Type	N Type Mono
Cell Arrangement	108 pcs, 2x(6x9)
Dimension (LxWxH)	1722x1134x30mm
Weight	25.0kg
Front Cover	2.0mm AR Coating Tempered Glass
Back Cover	2.0mm Heat Strengthened Glass with Black Grid
Frame	Black Anodized Aluminium Alloy
Junction Box	IP68, 3 Bypass Diodes
Cable	4mm <sup>2</sup> , +400mm, -300mm, or customizable
Connector	PV Connector

## Technical Drawings (mm)



## Electrical Parameters

STC: 1000W/m<sup>2</sup>, 25 °C, AM 1.5 NMOT: 800W/m<sup>2</sup>, AM 1.5, 20°C, 1m/s Pmax tolerance 0~+3%

Module Type	TSBHNM425-108HVG		TSBHNM430-108HVG		TSBHNM435-108HVG		TSBHNM440-108HVG		TSBHNM445-108HVG	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Max. Power Output Pmax (W)	425	320	430	323	435	327	440	331	445	335
Max. Power Voltage Vmp (V)	31.77	29.63	31.90	29.69	32.04	29.84	32.17	29.99	32.30	30.10
Max. Power Current Imp (A)	13.38	10.80	13.48	10.88	13.58	10.96	13.68	11.04	13.78	11.13
Open Circuit Voltage Voc (V)	37.57	35.69	37.71	35.82	37.86	35.97	38.01	36.11	38.15	36.24
Short Circuit Current Isc (A)	14.26	11.51	14.36	11.59	14.46	11.67	14.56	11.76	14.66	11.84
Module Efficiency (%)	21.76%		22.02%		22.28%		22.53%		22.79%	

## Rear Side Power Gain

Refer. Bifaciality Factor: 70~10%

Gain	Maximum Power (Pmax)	TSBHNM425-108HVG		TSBHNM430-108HVG		TSBHNM435-108HVG		TSBHNM440-108HVG		TSBHNM445-108HVG	
		STC (%)	NMOT (%)	STC (%)	NMOT (%)	STC (%)	NMOT (%)	STC (%)	NMOT (%)	STC (%)	NMOT (%)
5%	Maximum Power (Pmax)	446		452		457		462		467	
	Module Efficiency STC (%)	22.85%		23.12%		23.39%		23.66%		23.93%	
15%	Maximum Power (Pmax)	489		495		500		506		512	
	Module Efficiency STC (%)	25.03%		25.32%		25.62%		25.91%		26.21%	
25%	Maximum Power (Pmax)	531		538		544		550		556	
	Module Efficiency STC (%)	27.21%		27.53%		27.85%		28.17%		28.49%	

## Operating Parameters

Maximum System Voltage(V)	1500(DC)
Operating Temperature(°C)	-40°C ~ +85°C
Max. Wind Load / Snow Load(Pa)	2400/5400
Max. Over Current(A)	30

## Temperature Coefficients

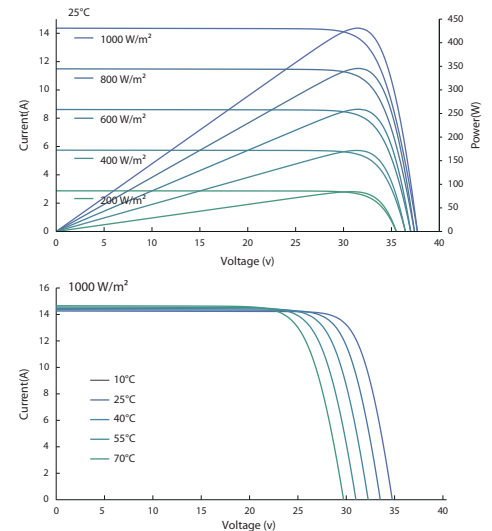
Temperature Coefficients of Pmp	-0.30%/°C
Temperature Coefficients of Voc	-0.25%/°C
Temperature Coefficients of Isc	+0.046%/°C
NMOT	45°C±2°C

## Package Information

Quantity / Pallet	36 pcs
Container 40'HQ	26 pallets, 936 pcs

## Patner's Notes

## I-V Curves



\*The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Due to ongoing innovation, R&D enhancement, Zhejiang Beyondsun Green Energy Technology Co., Ltd. reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.