

• YOUR
• SMART
• ENERGY

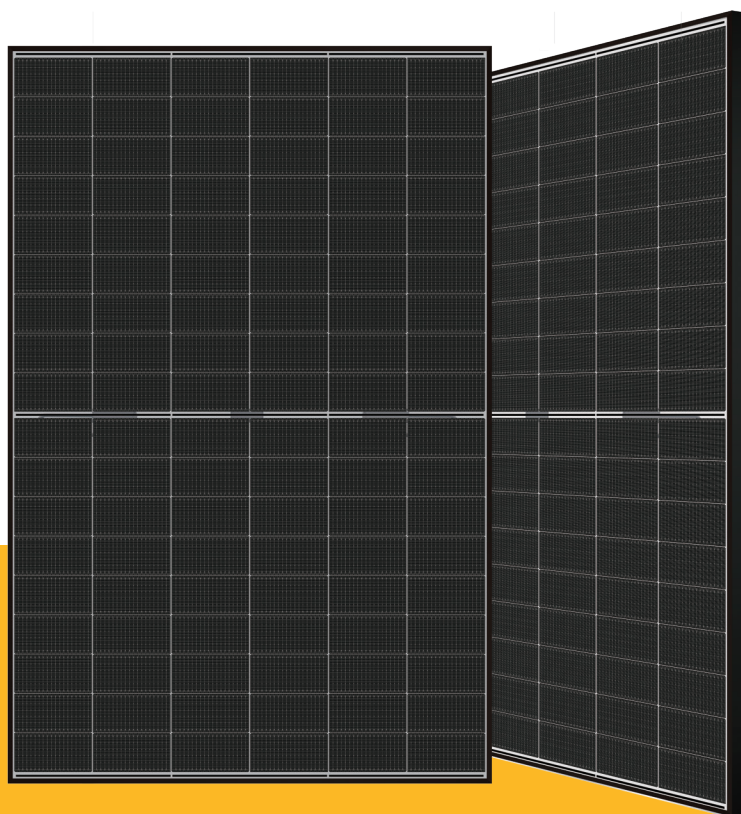


MONTSOL

BLACK SERIES

108-Cell Bifacial Half Cell
Double-Glass PV Panel

POWER
430-450W



HJT Ultra-High-Efficient Output Power

Higher Energy Conversion Efficiency
(Natural Bifacial Symmetrical Structure of HJT Cells)

Superior Low Temperature Coefficient

Unique SMBB Technology

Avoid PID/LID Risks

Outstanding Weak Light Performance

Exceptional 30 Years Product & Performance Warranty

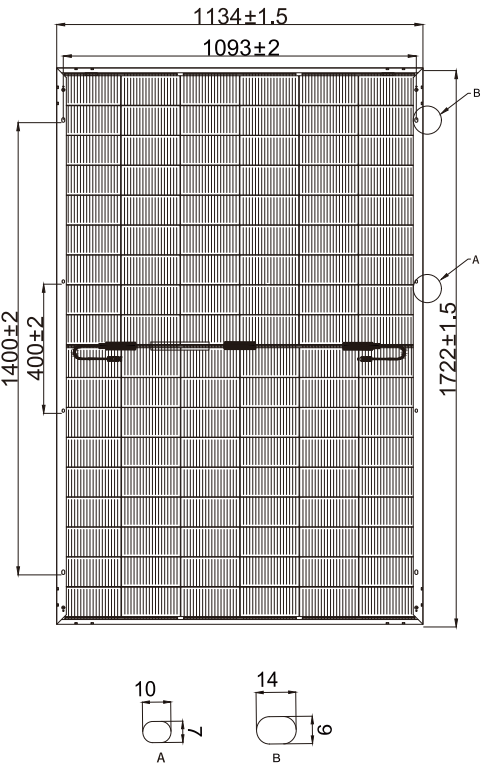


MONTSOL BLACK SERIES 430-450W

108-Cell Bifacial Half Cell Double-Glass PV Panel

Engineering Drawings

Unit: mm



Electrical Characteristics (STC*)

AL-182-B108	DSN430	DSN435	DSN440	DSN445	DSN450
Maximum Power (Pmax)	430W	435W	440W	445W	450W
Module Efficiency (%)	22.02 %	22.28 %	22.53 %	22.79 %	23.04 %
Optimum Operating Voltage (Vmp)	34.60 V	34.86 V	35.12 V	35.38 V	35.63 V
Optimum Operating Current (Imp)	12.43 A	12.48 A	12.53 A	12.58 A	12.63 A
Open Circuit Voltage (Voc)	40.87 V	41.14 V	41.41 V	41.68 V	41.94 V
Short Circuit Current (Isc)	12.95 A	13.00 A	13.05 A	13.10 A	13.15 A
Operating Module Temperature	-40 to +85 °C				
Maximum System Voltage	DC1500V (IEC)				
Maximum Series Fuse	25 A				
Power Tolerance	0~+5 W				
Bifaciality	90% ± 5%				

* STC: Irradiance 1000 W/m², cell temperature 25 °C, AM=1.5. Tolerance of Pmax is within +/- 3%.

BSTC**

Maximum Power (Pmax)	480 W	485 W	490 W	495 W	500 W
Optimum Operating Voltage (Vmp)	34.60 V	34.86 V	35.12 V	35.38 V	35.63 V
Optimum Operating Current (Imp)	13.88 A	13.92 A	13.96 A	14.00 A	14.04 A
Open Circuit Voltage (Voc)	40.87 V	41.14 V	41.41 V	41.68 V	41.94 V
Short Circuit Current (Isc)	14.46 A	14.49 A	14.53 A	14.57 A	14.61 A

** BSTC: Front side irradiation 1000 W/m², back side reflection irradiation 135 W/m², AM=1.5, ambient temperature 25 °C.

Temperature Characteristics

Nominal Operating Cell Temp. (NOCT)	44 °C ± 2 °C
Temperature Coefficient of Pmax	-0.26% / °C
Temperature Coefficient of Voc	-0.24% / °C
Temperature Coefficient of Isc	0.04% / °C

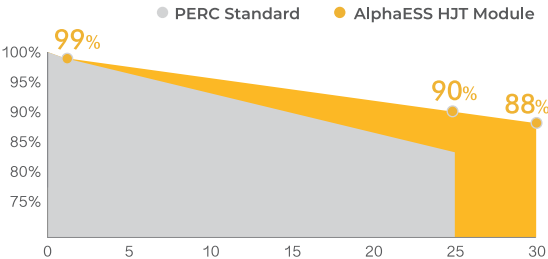
Mechanical Characteristics

Cell Type	HJT Mono 182×91.75mm
Cell Connection	108 (6×18)
Module Dimension	1722×1134×30 mm
Weight	22 kg
Junction Box	IP68
Output Cable	4mm², 1200mm in length, length can be customized / UV resistant
Connectors Type	MC4 original
Frame	Anodised aluminum alloy (Black)
Encapsulant	EPE
Front Load	5400 Pa
Rear Load	2400 Pa
Glass Thickness	(F) 1.6mm anti-reflective solar glass (B) 1.6mm solar glass

Safety & Warranty

Safety Class	Class II
Product Warranty	30 yrs Workmanship
Performance Warranty	30 yrs Linear Warranty*

* Less than 1% attenuation in the 1st year, the annual attenuation from the 2nd year is no more than 0.375%, and the power is no less than 88% until the 30th year.



* Refer to AlphaESS standard warranty for details

Shipping Configurations

Container Size	HC
Pallets Per Container	40'
Modules Per Pallet (pcs)	26
Modules Per Container (pcs)	36
	936

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