

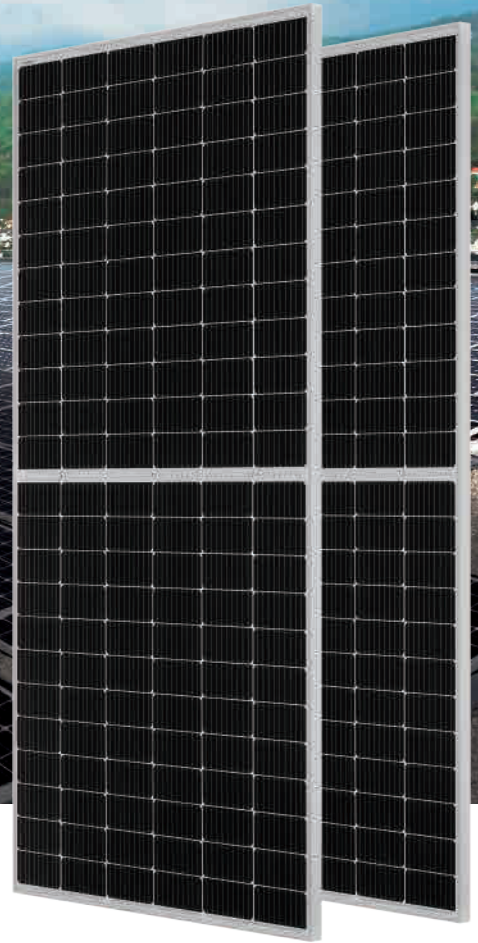
**Mono**

## 460W MBB Bifacial Mono PERC Half-cell Double Glass Module

JAM72D20 435-460/MB/1500V Series

### Introduction

Assembled with MBB bifacial PERCium cells and half-cell configuration, these double glass modules have the capability of converting the incident light from the rear side together with the front side into electricity, providing higher output power, lower temperature coefficient, less shading loss, as well as enhanced tolerance for mechanical loading.



Higher output power



More reliable, more stable power generation



Less shading effect

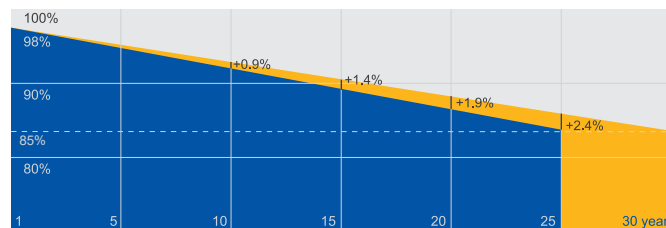


Lower temperature coefficient

### Superior Warranty

- 12-year product warranty
- 30-year linear power output warranty

0.45% Annual Degradation Over 30 years



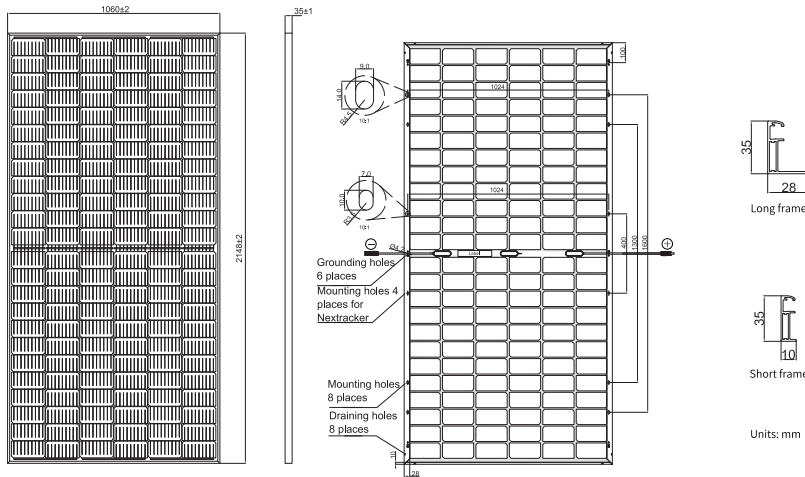
■ Additional Value From 30-Year Warranty ■ JA Standard

### Comprehensive Certificates

- IEC 61215, IEC 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- OHSAS 18001: 2007 Occupational health and safety management systems



**MECHANICAL DIAGRAMS**



Remark: customized frame color and cable length available upon request

**SPECIFICATIONS**

Cell	Mono
Weight	28.2kg±3%
Dimensions	2148±2mm×1060±2mm×35±1mm
Cable Cross Section Size	4mm <sup>2</sup> (IEC)
No. of cells	144(6×24)
Junction Box	IP68, 3 diodes
Connector	Genuine MC4-EVO2 QC4.10-35/45
Cable Length (Including Connector)	Portrait:300mm(+)/400mm(-); Landscape:1200mm(+)/1200mm(-)
Front Glass/Back Glass	2.0mm/2.0mm
Country of Manufacturer	China/Vietnam

**ELECTRICAL PARAMETERS AT STC**

TYPE	JAM72D20 -435/MB/1500V	JAM72D20 -440/MB/1500V	JAM72D20 -445/MB/1500V	JAM72D20 -450/MB/1500V	JAM72D20 -455/MB/1500V	JAM72D20 -460/MB/1500V
Rated Maximum Power(Pmax) [W]	435	440	445	450	455	460
Open Circuit Voltage(Voc) [V]	49.15	49.30	49.45	49.61	49.75	49.91
Maximum Power Voltage(Vmp) [V]	40.28	40.60	40.91	41.21	41.52	41.79
Short Circuit Current(Isc) [A]	11.29	11.33	11.38	11.42	11.46	11.50
Maximum Power Current(Imp) [A]	10.80	10.84	10.88	10.92	10.96	11.01
Module Efficiency [%]	19.1	19.3	19.5	19.8	20.0	20.2
Power Tolerance	0~+5W					
Temperature Coefficient of Isc( $\alpha_{Isc}$ )	+0.044%/°C					
Temperature Coefficient of Voc( $\beta_{Voc}$ )	-0.272%/°C					
Temperature Coefficient of Pmax( $\gamma_{Pmp}$ )	-0.354%/°C					
STC	Irradiance 1000W/m <sup>2</sup> , cell temperature 25°C, AM1.5G					

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.  
Measurement tolerance at STC: Pmax ±3%, Voc ±2% and Isc ±4%.

**ELECTRICAL CHARACTERISTICS WITH DIFFERENT REAR SIDE POWER GAIN(REFRENE TO 445W FRONT)**

**OPERATING CONDITIONS**

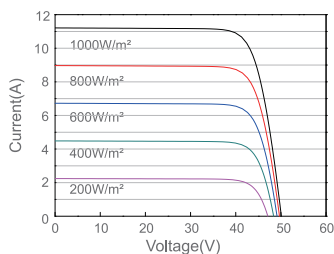
Backside Power Gain	5%	10%	15%	20%	25%	Maximum System Voltage	1500V DC
Rated Max Power(Pmax) [W]	467	490	512	534	556	Operating Temperature	-40°C~+85°C
Open Circuit Voltage(Voc) [V]	48.80	48.80	48.80	48.90	48.90	Maximum Series Fuse	25A
Max Power Voltage(Vmp) [V]	41.30	41.30	41.30	41.40	41.40	Maximum Static Load,Front*	3600Pa, 1.5
Short Circuit Current(Isc) [A]	11.98	12.55	13.12	13.69	14.26	Maximum Static Load,Back*	1600Pa, 1.5
Max Power Current(Imp) [A]	11.31	11.85	12.39	12.90	13.44	NOCT	45±2°C
						Bifaciality**	70%±10%

\*For NexTracker installations static loading performance: front load measure 2400Pa, while back load measures 2400Pa.

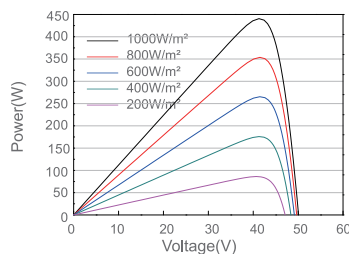
\*\*Bifaciality=Pmax,rear/Rated Pmax,front

**CHARACTERISTICS**

Current-Voltage Curve JAM72D20-440/MB/1500V



Power-Voltage Curve JAM72D20-440/MB/1500V



Current-Voltage Curve JAM72D20-440/MB/1500V

