

**Mono**

## 465W MBB Bifacial Mono PERC Half-cell Double Glass Module

JAM72D20 440-465/MB Series

### Introduction

Assembled with MBB bifacial PERCUM 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

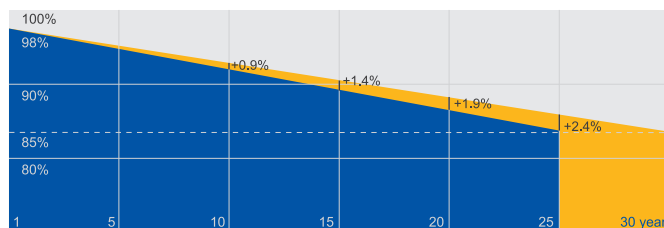


Lower temperature coefficient

### Superior Warranty

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

0.45% Annual Degradation  
Over 30 years



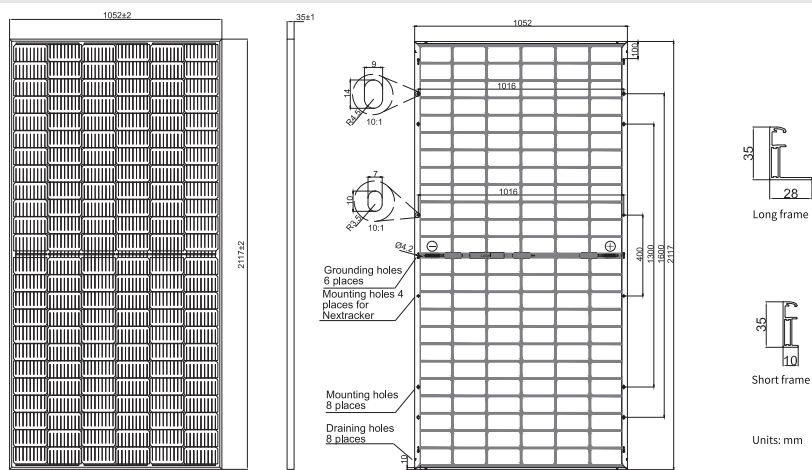
■ Additional Value From 30-Year Warranty ■ JA Standard

### Comprehensive Certificates

- IEC 61215, IEC 61730, UL 61215, UL 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001: 2018 Occupational health and safety management systems
- IEC TS 62941: 2016 Terrestrial photovoltaic (PV) modules – Guidelines for increased confidence in PV module design qualification and type approval



## MECHANICAL DIAGRAMS



Remark: customized frame color and cable length available upon request

## SPECIFICATIONS

|                                    |  |
|------------------------------------|--|
| Cell                               | Mono                                   |
| Weight                             | 27.3kg±3%                              |
| Dimensions                         | 2117±2mm×1052±2mm×35±1mm               |
| Cable Cross Section Size           | 4mm <sup>2</sup> (IEC), 12 AWG(UL)     |
| No. of cells                       | 144(6×24)                              |
| Junction Box                       | IP68, 3 diodes                         |
| Connector                          | MC4-EVO2                               |
| Cable Length (Including Connector) | 1200mm(+)/1200mm(-)                    |
| Front Glass/Back Glass             | 2.0mm/2.0mm                            |
| Packaging Configuration            | 30pcs/pallet,<br>660pcs/40ft Container |

## ELECTRICAL PARAMETERS AT STC

| TYPE  | JAM72D20<br>-440/MB   | JAM72D20<br>-445/MB | JAM72D20<br>-450/MB | JAM72D20<br>-455/MB | JAM72D20<br>-460/MB | JAM72D20<br>-465/MB |
|---|---|---------------------|---------------------|---------------------|---------------------|---------------------|
| Rated Maximum Power(P <sub>max</sub> ) [W]                      | 440   | 445                 | 450                 | 455                 | 460                 | 465                 |
| Open Circuit Voltage(V <sub>oc</sub> ) [V]                      | 49.30   | 49.45               | 49.61               | 49.75               | 49.91               | 50.05               |
| Maximum Power Voltage(V <sub>mp</sub> ) [V]                     | 40.60   | 40.91               | 41.21               | 41.52               | 41.79               | 42.09               |
| Short Circuit Current(I <sub>sc</sub> ) [A]                     | 11.33   | 11.38               | 11.42               | 11.46               | 11.50               | 11.55               |
| Maximum Power Current(I <sub>mp</sub> ) [A]                     | 10.84   | 10.88               | 10.92               | 10.96               | 11.01               | 11.05               |
| Module Efficiency [%]   | 19.8  | 20.0                | 20.2                | 20.4                | 20.7                | 20.9                |
| Power Tolerance   | 0~+5W   |                     |                     |                     |                     |                     |
| Temperature Coefficient of I <sub>sc</sub> (α <sub>Isc</sub> )  | +0.044%/°C  |                     |                     |                     |                     |                     |
| Temperature Coefficient of V <sub>oc</sub> (β <sub>Voc</sub> )  | -0.272%/°C  |                     |                     |                     |                     |                     |
| Temperature Coefficient of P <sub>max</sub> (γ <sub>Pmp</sub> ) | -0.350%/°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.

## ELECTRICAL CHARACTERISTICS WITH DIFFERENT REAR SIDE POWER GAIN(REFERENCE TO 445W FRONT)

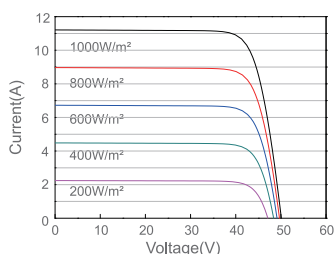
| Backside Power Gain                         | 5%    | 10%   | 15%   | 20%   | 25%   | Operating Temperature       | 1500V DC                        |
|---|-------|-------|-------|-------|-------|-----------------------------|---------------------------------|
| Rated Max Power(P <sub>max</sub> ) [W]      | 467   | 490   | 512   | 534   | 556   | Operating Temperature       | -40°C~+85°C                     |
| Open Circuit Voltage(V <sub>oc</sub> ) [V]  | 48.80 | 48.80 | 48.80 | 48.90 | 48.90 | Maximum Series Fuse         | 25A                             |
| Max Power Voltage(V <sub>mp</sub> ) [V]     | 41.30 | 41.30 | 41.30 | 41.40 | 41.40 | Maximum Static Load, Front* | 5400Pa(112 lb/ft <sup>2</sup> ) |
| Short Circuit Current(I <sub>sc</sub> ) [A] | 11.98 | 12.55 | 13.12 | 13.69 | 14.26 | Maximum Static Load, Back*  | 2400Pa(50 lb/ft <sup>2</sup> )  |
| Max Power Current(I <sub>mp</sub> ) [A]     | 11.31 | 11.85 | 12.39 | 12.90 | 13.44 | NOCT                        | 45±2°C                          |
|   |       |       |       |       |       | Bifaciality**               | 70%±10%                         |
|   |       |       |       |       |       | Fire Performance            | UL Type 29                      |

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

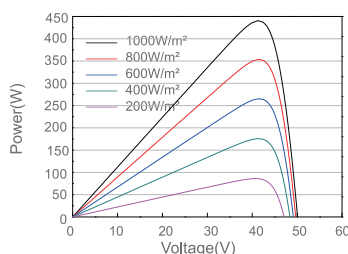
\*\*Bifaciality=P<sub>max, rear</sub>/Rated P<sub>max, front</sub>

## CHARACTERISTICS

Current-Voltage Curve JAM72D20-440/MB



Power-Voltage Curve JAM72D20-440/MB



Current-Voltage Curve JAM72D20-440/MB

