

# Harvest the Sunshine

## DEEP BLUE 3.0

### Mono

405 W MBB  
Half-cell Black Module  
JAM54S31 380-405/MR/1500V Series

#### Introduction

Assembled with 11BB PERC cells, the half-cell configuration of the modules offers the advantages of higher power output, better temperature-dependent performance, reduced shading effect on the energy generation, lower risk of hot spot, as well as enhanced tolerance for mechanical loading.



Higher output power



Lower LCOE



Less shading and lower resistive loss

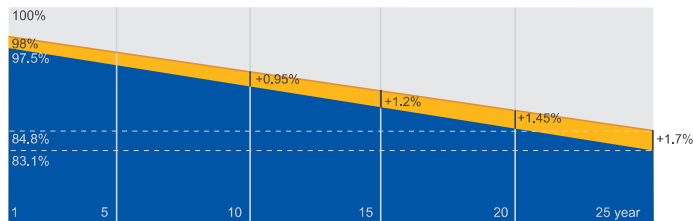


Better mechanical loading tolerance

#### Superior Warranty

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

0.55% Annual Degradation  
Over 25 years



■ New linear power warranty ■ Standard module linear power warranty

#### Comprehensive Certificates

- IEC 61215, IEC 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001: 2018 Occupational health and safety management systems



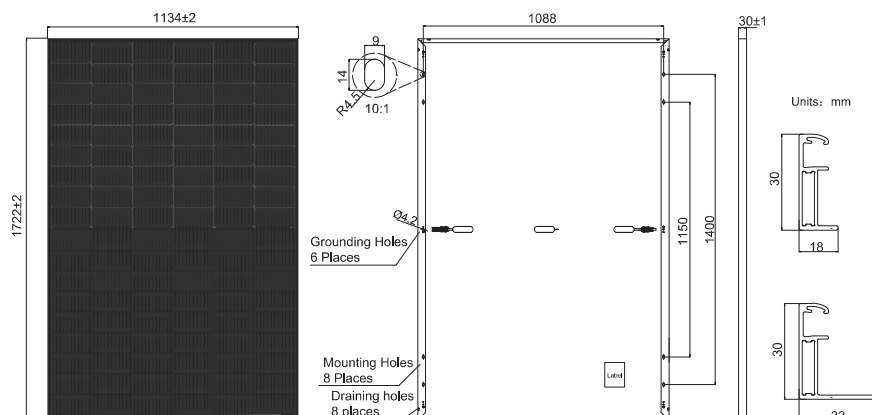
# JA SOLAR

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Shanghai JA Solar Technology Co., Ltd.



## MECHANICAL DIAGRAMS



## SPECIFICATIONS

|                                       |                                                                |
|---------------------------------------|----------------------------------------------------------------|
| Cell                                  | Mono                                                           |
| Weight                                | 19.5kg or 21.5kg                                               |
| Dimensions                            | 1722±2mm×1134±2mm×30±1mm                                       |
| Cable Cross Section Size              | 4mm <sup>2</sup> (IEC) , 12 AWG(UL)                            |
| No. of cells                          | 108(6x18)                                                      |
| Junction Box                          | IP68, 3 diodes                                                 |
| Connector                             | Stäubli MC4-EVO2<br>QC Solar QC 4.10-35                        |
| Cable Length<br>(Including Connector) | Portrait: 300mm(+)/400mm(-);<br>Landscape: 1200mm(+)/1200mm(-) |
| Country of Manufacturer               | China/Vietnam                                                  |
| Front Glass                           | 2.8mm or 3.2mm                                                 |

Remark: customized frame color and cable length available upon request

## ELECTRICAL PARAMETERS AT STC

| TYPE                                                            | JAM54S31<br>-380/MR/1500V                                       | JAM54S31<br>-385/MR/1500V | JAM54S31<br>-390/MR/1500V | JAM54S31<br>-395/MR/1500V | JAM54S31<br>-400/MR/1500V | JAM54S31<br>-405/MR/1500V |
|-----------------------------------------------------------------|-----------------------------------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Rated Maximum Power(P <sub>max</sub> ) [W]                      | 380                                                             | 385                       | 390                       | 395                       | 400                       | 405                       |
| Open Circuit Voltage(V <sub>oc</sub> ) [V]                      | 36.58                                                           | 36.71                     | 36.85                     | 36.98                     | 37.07                     | 37.23                     |
| Maximum Power Voltage(V <sub>mp</sub> ) [V]                     | 30.28                                                           | 30.46                     | 30.64                     | 30.84                     | 31.01                     | 31.21                     |
| Short Circuit Current(I <sub>sc</sub> ) [A]                     | 13.44                                                           | 13.52                     | 13.61                     | 13.70                     | 13.79                     | 13.87                     |
| Maximum Power Current(I <sub>mp</sub> ) [A]                     | 12.55                                                           | 12.64                     | 12.73                     | 12.81                     | 12.90                     | 12.98                     |
| Module Efficiency [%]                                           | 19,5                                                            | 19,7                      | 20,0                      | 20,2                      | 20,5                      | 20,7                      |
| Power Tolerance                                                 | 0~+5W                                                           |                           |                           |                           |                           |                           |
| Temperature Coefficient of I <sub>sc</sub> (α <sub>Isc</sub> )  | +0.045%/°C                                                      |                           |                           |                           |                           |                           |
| Temperature Coefficient of V <sub>oc</sub> (β <sub>Voc</sub> )  | -0.275%/°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 |                           |                           |                           |                           |                           |

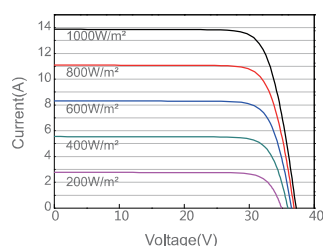
Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.  
Measurement tolerance at STC: P<sub>max</sub> ±3%, V<sub>oc</sub> ±3% and I<sub>sc</sub> ±4%.

## ELECTRICAL PARAMETERS AT NOCT

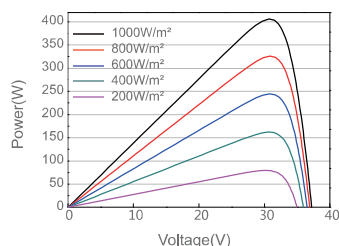
| TYPE                                        | JAM54S31<br>-380/MR/1500V                                                          | JAM54S31<br>-385/MR/1500V | JAM54S31<br>-390/MR/1500V | JAM54S31<br>-395/MR/1500V | JAM54S31<br>-400/MR/1500V | JAM54S31<br>-405/MR/1500V | OPERATING CONDITIONS                                                              |
|---------------------------------------------|------------------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-----------------------------------------------------------------------------------|
| Rated Max Power(P <sub>max</sub> ) [W]      | 286                                                                                | 290                       | 294                       | 298                       | 302                       | 306                       | Maximum System Voltage 1500V DC(IEC)                                              |
| Open Circuit Voltage(V <sub>oc</sub> ) [V]  | 34.36                                                                              | 34.49                     | 34.62                     | 34.75                     | 34.88                     | 35.12                     | Operating Temperature -40 °C ~+85 °C                                              |
| Max Power Voltage(V <sub>mp</sub> ) [V]     | 28.51                                                                              | 28.68                     | 28.87                     | 29.08                     | 29.26                     | 29.47                     | Maximum Series Fuse Rating 25A                                                    |
| Short Circuit Current(I <sub>sc</sub> ) [A] | 10.75                                                                              | 10.82                     | 10.89                     | 10.96                     | 11.03                     | 11.10                     | Maximum Static Load, Front* 3600Pa, 1.5<br>Maximum Static Load, Back* 1600Pa, 1.5 |
| Max Power Current(I <sub>mp</sub> ) [A]     | 10.03                                                                              | 10.11                     | 10.18                     | 10.25                     | 10.32                     | 10.38                     | NOCT 45±2 °C                                                                      |
| NOCT                                        | Irradiance 800W/m <sup>2</sup> , ambient temperature 20°C, wind speed 1m/s, AM1.5G |                           |                           |                           |                           |                           | Safety Class Class II                                                             |
|                                             |                                                                                    |                           |                           |                           |                           |                           | Fire Safety Class Class C                                                         |

## CHARACTERISTICS

Current-Voltage Curve JAM54S31-405/MR/1500V



Power-Voltage Curve JAM54S31-405/MR/1500V



Current-Voltage Curve JAM54S31-405/MR/1500V

