

# Harvest the Sunshine

# 465W

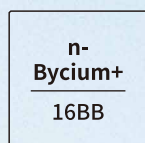


## JA SOLAR

Preliminary Version

## JAM54D40 LB Black Frame n-type Double Glass Bifacial Modules

### Premium Cells



MBB Half-Cell  
Technology

# 26%



Cell Conversion  
Efficiency

### Premium Modules



Higher power  
generation better LCOE



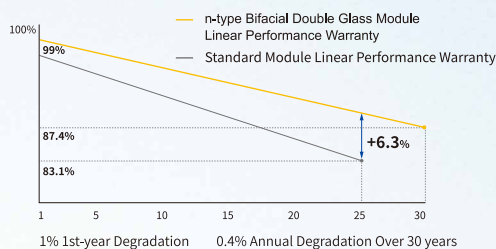
n-type with very  
Lower LID



Better Temperature  
Coefficient



Better low irradiance  
response



25-year product  
warranty



30-year linear power  
output warranty

### Comprehensive Certificates

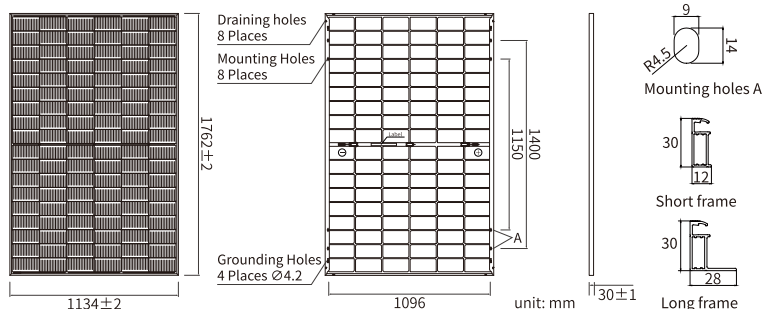
- IEC 61215, IEC 61730, UL 61215, UL 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001: 2018 Occupational health and safety management systems
- IEC 62941: 2019 Terrestrial photovoltaic (PV) modules - Quality system for PV module manufacturing



## DEEP BLUE 4.0 Pro

# JAM54D40 LB

n-type Double Glass Bifacial Modules



## MECHANICAL PARAMETERS

|                                       |                                                               |
|---------------------------------------|---------------------------------------------------------------|
| Cell                                  | Mono                                                          |
| Weight                                | 22kg                                                          |
| Dimensions                            | 1762±2mm×1134±2mm×30±1mm                                      |
| Cable Cross Section Size              | 4mm²(IEC), 12 AWG(UL)                                         |
| No. of cells                          | 108(6×18)                                                     |
| Junction Box                          | IP68, 3diodes                                                 |
| Connector                             | QC 4.10-351/ MC4-EVO2A                                        |
| Cable Length<br>(Including Connector) | Portrait: 300mm(+)/400mm(-)<br>Landscape: 1200mm(+)/1200mm(-) |
| Front Glass/Back Glass                | 1.6mm/1.6mm                                                   |
| Packaging Configuration               | 36pcs/Pallet, 936pcs/40HQ Container                           |

Remark: customized frame color and cable length available upon request

## ELECTRICAL PARAMETERS AT STC

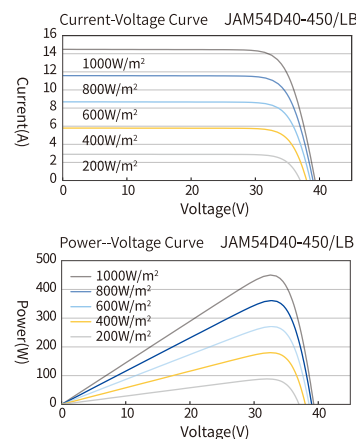
| TYPE                                                            | JAM54D40<br>-440/LB                                | JAM54D40<br>-445/LB | JAM54D40<br>-450/LB | JAM54D40<br>-455/LB | JAM54D40<br>-460/LB | JAM54D40<br>-465/LB |
|-----------------------------------------------------------------|----------------------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Rated Maximum Power(P <sub>max</sub> ) [W]                      | 440                                                | 445                 | 450                 | 455                 | 460                 | 465                 |
| Open Circuit Voltage (V <sub>oc</sub> ) [V]                     | 38.90                                              | 39.10               | 39.30               | 39.50               | 39.70               | 40.20               |
| Maximum Power Voltage(V <sub>mp</sub> ) [V]                     | 32.47                                              | 32.65               | 32.82               | 33.00               | 33.17               | 33.50               |
| Short Circuit Current(I <sub>sc</sub> ) [A]                     | 14.31                                              | 14.40               | 14.48               | 14.56               | 14.64               | 14.65               |
| Maximum Power Current(I <sub>mp</sub> ) [A]                     | 13.55                                              | 13.63               | 13.71               | 13.79               | 13.87               | 13.88               |
| Module Efficiency [%]                                           | 22.0                                               | 22.3                | 22.5                | 22.8                | 23.0                | 23.3                |
| Power Tolerance                                                 | 0~+3%                                              |                     |                     |                     |                     |                     |
| 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> )  | -0.250%/°C                                         |                     |                     |                     |                     |                     |
| Temperature Coefficient of P <sub>max</sub> (γ <sub>Pmp</sub> ) | -0.290%/°C                                         |                     |                     |                     |                     |                     |
| STC                                                             | Irradiance 1000W/m², 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 10% SOLAR IRRADIATION RATIO

| TYPE                                        | JAM54D40<br>-440/LB | JAM54D40<br>-445/LB | JAM54D40<br>-450/LB | JAM54D40<br>-455/LB | JAM54D40<br>-460/LB | JAM54D40<br>-465/LB |
|---------------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Rated Max Power(P <sub>max</sub> ) [W]      | 475                 | 481                 | 486                 | 491                 | 497                 | 502                 |
| Open Circuit Voltage(V <sub>oc</sub> ) [V]  | 38.90               | 39.10               | 39.30               | 39.50               | 39.70               | 40.20               |
| Max Power Voltage(V <sub>mp</sub> ) [V]     | 32.47               | 32.65               | 32.82               | 32.99               | 33.17               | 33.50               |
| Short Circuit Current(I <sub>sc</sub> ) [A] | 15.46               | 15.55               | 15.64               | 15.73               | 15.81               | 15.82               |
| Max Power Current(I <sub>mp</sub> ) [A]     | 14.63               | 14.72               | 14.81               | 14.89               | 14.98               | 14.99               |
| Irradiation Ratio (rear/front)              | 10%                 |                     |                     |                     |                     |                     |

## CHARACTERISTICS



## OPERATING CONDITIONS

|                            |                    |
|----------------------------|--------------------|
| Maximum System Voltage     | 1500V DC           |
| Operating Temperature      | -40°C~+85°C        |
| Maximum Series Fuse Rating | 30A                |
| Maximum Static Load, Front | 5400Pa(112 lb/ft²) |
| Maximum Static Load, Back  | 2400Pa(50 lb/ft²)  |
| NOCT                       | 45±2°C             |
| Bifaciality                | 80%±5%             |
| Safety Class               | Class II           |
| Fire Performance           | UL Type 38/Class C |