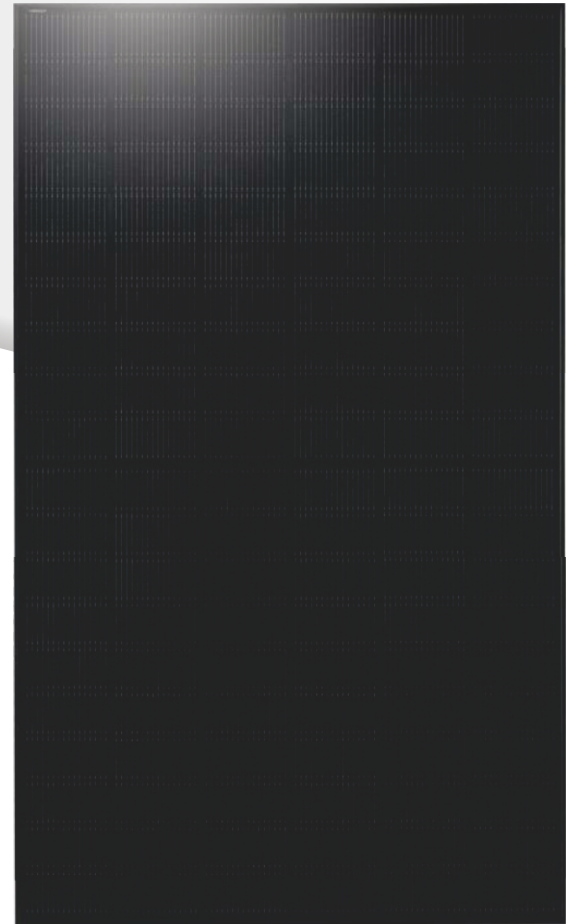
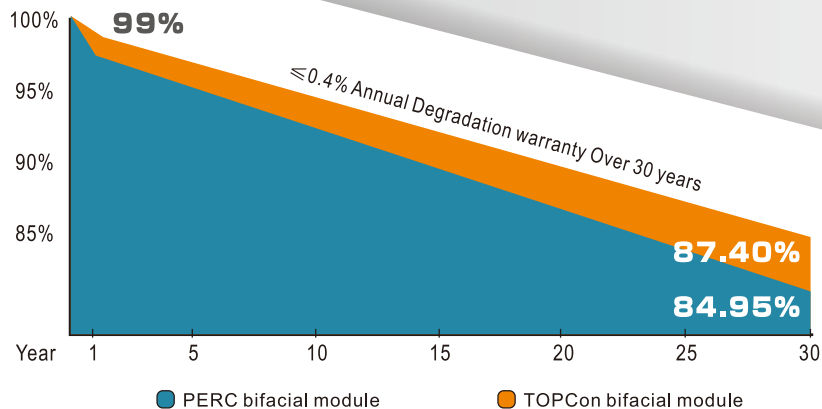


# Black Jade Series

## DOUBLE-GLASS BIFACIAL N-TYPE MODULE

### 490~500W



**Cutting Free Technology**  
Minimized micro-crack



**Anti-PID(potential induced degradation)**  
Passed anti-PID test under 85% damp heat  
85% relative humidity for 192 hours



**Higher Power Output**  
Lower shading and resistive loss



**Outstanding mechanical load resistance**  
2400 Pa wind load, 5400 Pa snow load



**15-year product warranty**  
**30-year linear power output**



CEC Listed



IEC 61215, IEC 61730

ISO 9001: 2015 (Quality management systems)

ISO 14001: 2015 (Environmental management systems)

ISO 45001: 2018 (Occupational health and safety)

UNI 9177 la CLASSE DI REAZIONE AL FUOCO:1

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# TOPCON(N TYPE) 490~500Watt



## ELECTRICAL SPECIFICATIONS

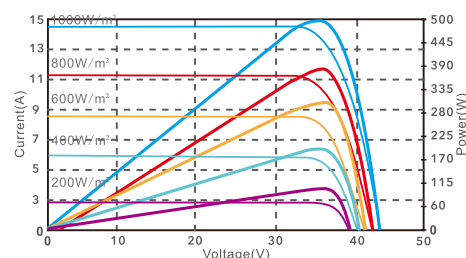
| Module Type                               |   | UL-490M-120BDGN |       | UL-495M-120BDGN |       | UL-500M-120BDGN |       |
|-------------------------------------------|---|-----------------|-------|-----------------|-------|-----------------|-------|
|                                           |   | STC* NOCT*      |       | STC* NOCT*      |       | STC* NOCT*      |       |
| Maximum Power (Pmax)                      | W | 490             | 371   | 495             | 375   | 500             | 379   |
| Maximum Power Voltage (Vmp)V              |   | 36.68           | 33.75 | 36.85           | 33.90 | 37.02           | 34.06 |
| Maximum Power Current (Imp) A             |   | 13.36           | 11.00 | 13.43           | 11.06 | 13.51           | 11.13 |
| Open-circuit Voltage (Voc)                | V | 43.35           | 39.45 | 43.52           | 39.60 | 43.78           | 39.84 |
| Short-circuit Current (Isc)               | A | 14.35           | 11.58 | 14.43           | 11.64 | 14.48           | 11.68 |
| Module Efficiency STC                     | % | 22.14           |       | 22.36           |       | 22.59           |       |
| Operating Temperature                     |   |                 |       | -40°C~85°C      |       |                 |       |
| Maximum system voltage                    |   |                 |       | DC1500V(IEC)    |       |                 |       |
| Maximum series fuse rating                |   |                 |       | 30A             |       |                 |       |
| Power tolerance                           |   |                 |       | 0~+5 Watt       |       |                 |       |
| Temperature coefficients of Pmax          |   |                 |       | -0.29%/°C       |       |                 |       |
| Temperature coefficients of Voc           |   |                 |       | -0.250%/°C      |       |                 |       |
| Temperature coefficients of Isc           |   |                 |       | 0.046%/°C       |       |                 |       |
| Nominal operating cell temperature (NOCT) |   |                 |       | 43±2°C          |       |                 |       |

\*STC : Cell temperature: 25°C, Irradiance: 1000 W/m², Air mass: 1.5G

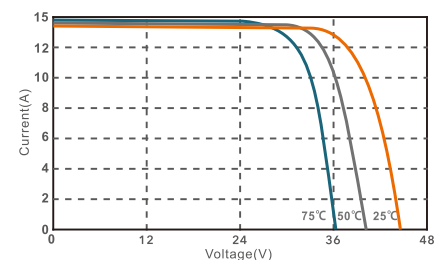
\*NOTC : Air temperature: 20°C, Irradiance: 800 W/m², Air mass: 1.5G, Wind speed: 1 m/s

## I-V CURVE[500W]

I-V characteristics at different irradiances



I-V characteristics at different temperature

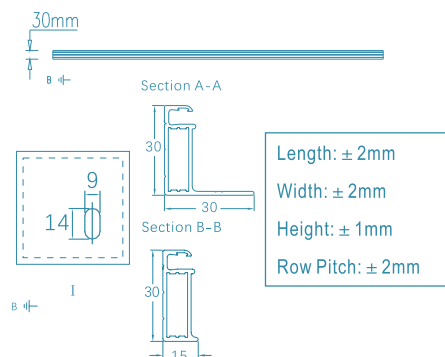
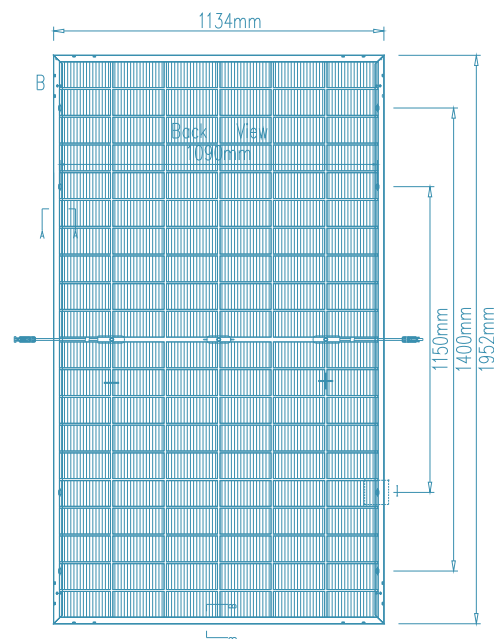


## SPECIFICATIONS

|                                       |                                                                                   |  |  |
|---------------------------------------|-----------------------------------------------------------------------------------|--|--|
| Cell Type                             | 182.2×94mm N type Mono-crystalline                                                |  |  |
| No. of cells                          | 120 (6×10×2)                                                                      |  |  |
| Dimensions                            | 1952*1134*30mm                                                                    |  |  |
| Weight                                | 26.2Kg                                                                            |  |  |
| Glass                                 | 2.0mm+2.0mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass |  |  |
| Junction Box                          | IP68, 3 diodes                                                                    |  |  |
| Connector                             | MC4 Compatible                                                                    |  |  |
| Cable Length<br>(Including Connector) | 4mm²<br>Portrait: (+)400 mm/(-) 200mm<br>Landscape: (+) 1200mm/(-)1200 mm         |  |  |
| Packaging Configuration               | Two Box=One pallet<br>36pcs/Box, 72pcs/Pallet, 864pcs/40HQ Container              |  |  |

## Electrical characteristics with different rear side power gain(reference to 500 W front)

| Pmax/W | Voc/V | Isc/A | Vmp/V | Imp/A | Pmax gain |
|--------|-------|-------|-------|-------|-----------|
| 500    | 43.78 | 14.48 | 37.02 | 13.51 | 0         |
| 525    | 43.78 | 15.20 | 37.02 | 14.18 | 5%        |
| 550    | 43.78 | 15.93 | 37.02 | 14.86 | 10%       |
| 575    | 43.78 | 16.65 | 37.02 | 15.53 | 15%       |
| 600    | 43.78 | 17.38 | 37.02 | 16.21 | 20%       |
| 625    | 43.78 | 18.10 | 37.02 | 16.88 | 25%       |
| 650    | 43.78 | 18.82 | 37.02 | 17.56 | 30%       |



Specifications included in this datasheet are subject to change without notice.

Ulica Solar reserves the right of final interpretation.

