

# Black Jade<sup>Flow</sup> series

Double Glass BiFacial N-Type TOPCon Solar Module

## 495~520W

Model: UL-\*\*\*M-108DDGN

Maximum Efficiency: **23.38%**



### Bifacial Mono Module

Capable of generating power at back side,  
80±5% efficiency of the front side



### Longer Term Reliability

Passed the IEC63209-1:2021 standard test (With testing standards  
2 to 3 times stricter than regular IEC requirements)



### Outstanding Mechanical load Resistance

2mm+2mm front and back sides tempered glass, sturdy and  
durable, resistant to hail impact, with a snow load of 5400Pa  
and a wind load of 2400Pa



### Anti-PID(potential induced degradation)

Passed anti-PID test under 85°C damp heat 85% relative  
humidity for 192 hours



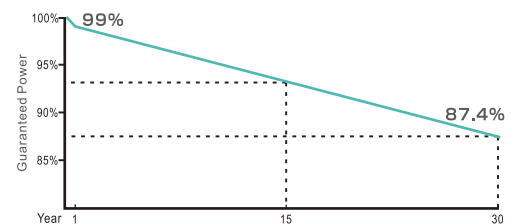
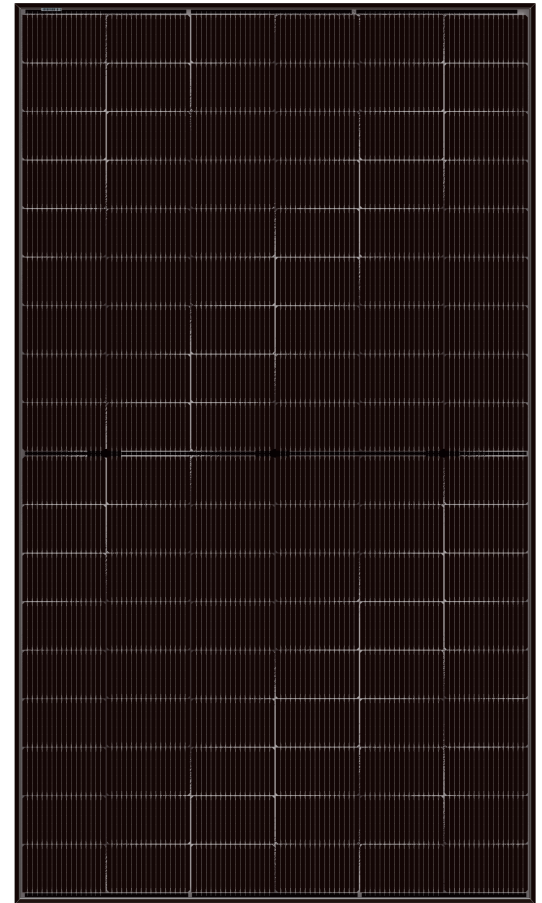
### Lower LCOE

Lower shading and resistive loss Lower temperature coefficient



### Full-Scenario Resilience

Proven through rigorous resistance tests for salt mist, ammonia  
corrosion, sand & dust, and LeTID degradation



**15** Year Product Warranty **1%** Power Degradation In The First Year

**30** Year Linear Power Warranty **0.4%** Linear Power Degradation

IEC 61215, IEC 61730

ISO 9001: 2015(Quality management systems)

ISO 14001: 2015 (Environmental management systems)

ISO45001: 2018 (Occupational health and safety)

UNI 9177 Fire Test: Class 1



CEC Listed



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# DOUBLE GLASS BIFACIAL 495~520Watt



## ELECTRICAL SPECIFICATIONS

| Module Type                | UL-495M-108DDGN |       |       | UL-500M-108DDGN |       | UL-505M-108DDGN |       | UL-510M-108DDGN |       | UL-515M-108DDGN |       | UL-520M-108DDGN |       |
|----------------------------|-----------------|-------|-------|-----------------|-------|-----------------|-------|-----------------|-------|-----------------|-------|-----------------|-------|
|                            | STC*            | NOCT* |       | STC*            | NOCT* | STC*            | NOCT* | STC*            | NOCT* | STC*            | NOCT* | STC*            | NOCT* |
| Maximum Power(Pmax)        | W               | 495   | 375   | 500             | 379   | 505             | 383   | 510             | 386   | 515             | 390   | 520             | 394   |
| Maximum Power Voltage(Vmp) | V               | 33.02 | 30.38 | 33.17           | 30.52 | 33.32           | 30.65 | 33.47           | 30.79 | 33.57           | 30.88 | 33.67           | 30.98 |
| Maximum Power Current(Imp) | A               | 14.99 | 12.35 | 15.08           | 12.42 | 15.16           | 12.48 | 15.24           | 12.55 | 15.34           | 12.64 | 15.44           | 12.72 |
| Open-circuit Current(Voc)  | V               | 39.67 | 36.10 | 39.83           | 36.25 | 39.99           | 36.39 | 40.16           | 36.55 | 40.22           | 36.60 | 40.26           | 36.64 |
| Short-circuit Current(Isc) | A               | 15.90 | 12.83 | 15.96           | 12.87 | 16.02           | 12.92 | 16.08           | 12.97 | 16.12           | 13.00 | 16.16           | 13.04 |
| Module Efficiency STC      | %               | 22.26 |       | 22.48           |       | 22.71           |       | 22.93           |       | 23.16           |       | 23.38           |       |

\*STC:Cell temperature:25°C,Irradiance:1000W/m²,Ari mass:1.5G,Power measurement tolerance: ±3%  
 \*NOCT:Air temperature:20°C,Irradiance:1000W/m²,Ari mass:1.5G,Wind speed:1m/s

## OPERATING PARAMETERS

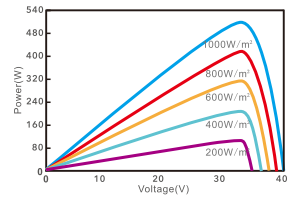
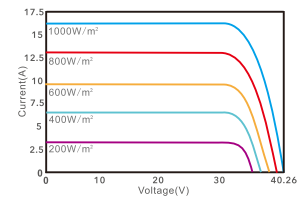
|                                    |              |
|------------------------------------|--------------|
| Operating Temperature              | -40°C~85°C   |
| Maximum system voltage             | DC1500V(IEC) |
| Maximum series fuse rating         | 30A          |
| Nominal operating cell temperature | 43±2°C       |
| Power tolerance                    | 0~+5Watt     |

## TEMPERATURE RATINGS

|                                  |           |
|----------------------------------|-----------|
| Temperature coefficients of Pmax | -0.29%/°C |
| Temperature coefficients of Voc  | -0.25%/°C |
| Temperature coefficients of Isc  | 0.046%/°C |

## I-V CURVE

I-V characteristics at different irradiances (reference to 520 W)



## REAR SIDE POWER GAIN(REFERENCE TO 520W FRONT SIDE)

|           |       |       |       |       |       |       |       |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| Pmax/W    | 520   | 546   | 572   | 598   | 624   | 650   | 676   |
| Pmax gain | 0%    | 5%    | 10%   | 15%   | 20%   | 25%   | 30%   |
| Voc/V     | 40.26 | 40.26 | 40.26 | 40.26 | 40.26 | 40.26 | 40.26 |
| Isc/A     | 16.16 | 16.97 | 17.78 | 18.58 | 19.39 | 20.20 | 21.01 |
| Vmp/V     | 33.67 | 33.67 | 33.67 | 33.67 | 33.67 | 33.67 | 33.67 |
| Imp/A     | 15.44 | 16.21 | 16.98 | 17.76 | 18.53 | 19.30 | 20.07 |

## SPECIFICATIONS

|                                       |                                                                                                                                                                     |  |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Cell Type                             | N-type TOPCon Mono Half Cell                                                                                                                                        |  |
| No.of cells                           | 108(6×9×2)                                                                                                                                                          |  |
| Dimensions                            | 1961*1134*30mm                                                                                                                                                      |  |
| Weight                                | 26.6kg                                                                                                                                                              |  |
| Front Glass                           | 2.0mm,Anti-Reflection Coating,High Transmission,Low Iron,Tempered Glass                                                                                             |  |
| Back Glass                            | 2.0mm,High Transmission,Low Iron,Tempered Glass                                                                                                                     |  |
| Frame                                 | Anodized Aluminium Alloy                                                                                                                                            |  |
| Junction Box                          | IP68,3diodes                                                                                                                                                        |  |
| Connector                             | <input type="radio"/> MC4 Compatible:PV-UL608 or <input type="radio"/> Original:MC4-EVO2A<br>or <input type="radio"/> others _____                                  |  |
| Cable Length<br>(Including Connector) | 4mm²<br><input type="radio"/> Short Cable:(+)400/(-)200mm or <input type="radio"/> Long Cable:(+)1200/(-)1200mm<br>or <input type="radio"/> Customized Length _____ |  |

## PACKAGING INFORMATION



37 Pcs/Pallet



74 Pcs/Stack



Length:1975mm



Width:1140mm



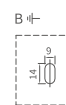
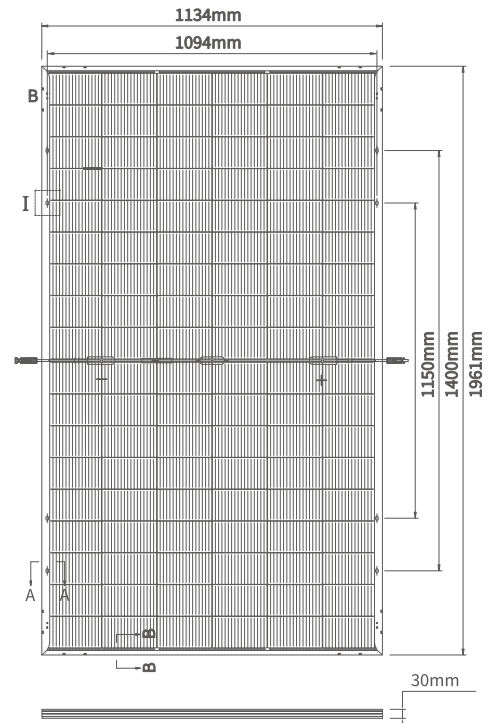
Height:2550mm



Weight:2037kg/Stack



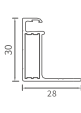
12 Stack/40HQ  
888Pcs/40HQ



I



B-B



A-A

Length:±2mm  
Width:±2mm  
Height:±1mm  
Row Pitch:±2mm



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

Ulica Solar reserves the right of final interpretation.

Version number: UL-1961-108DDGNTH-30-EN-V4.1