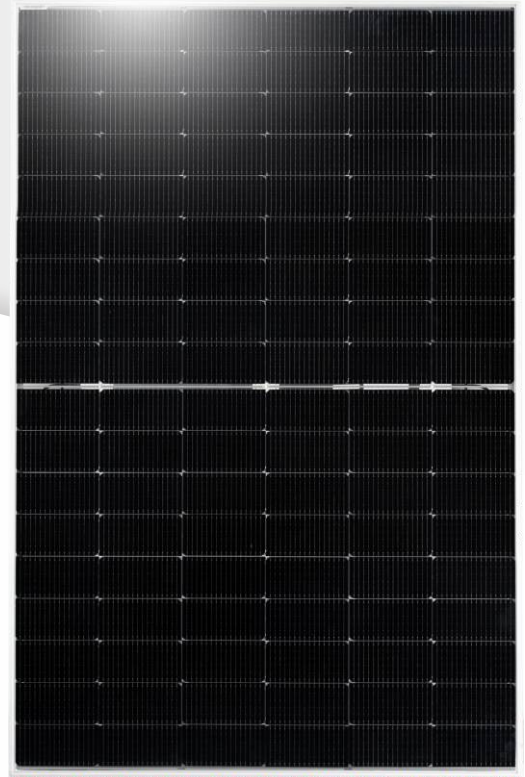
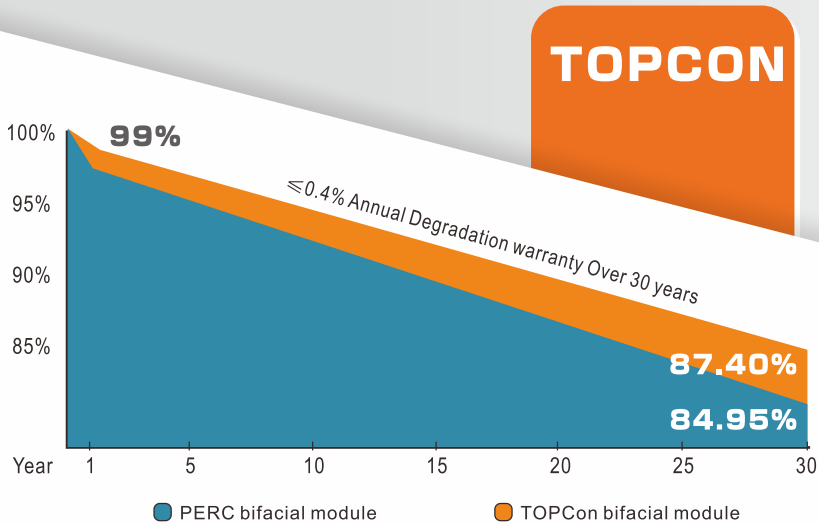


# DOUBLE-GLASS BIFACIAL N-TYPE 430~440 Watt



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

**Tier 1** Global Tier 1 brand as announced by Bloomberg NEF

**Lower LCOE**  
Lower shading and resistive loss  
Lower temperature coefficient

**PID FREE** Anti-PID (potential induced degradation)  
Passed anti-PID test under 85% damp heat  
85% relative humidity for 96 hours

**Outstanding mechanical load resistance**  
3800 Pa wind load, 5400 Pa snow load

**TÜV** Great Durability against extreme conditions  
Passed salt mist corrosion test, ammonia corrosion test  
dust & sand test, fire test, all certified by TÜV



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



# TOPCON (N TYPE) 430~440Watt



## ELECTRICAL SPECIFICATIONS

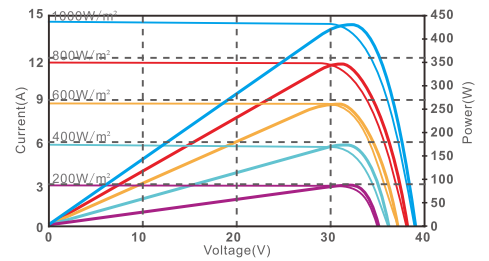
| Module Type                               |   | UL-430M-108DGN |       | UL-435M-108DGN |       | UL-440M-108DGN |       |
|---|---|----------------|-------|----------------|-------|----------------|-------|
|   |   | STC            | NOCT  | STC            | NOCT  | STC            | NOCT  |
| Maximum Power (Pmax)                      | W | 430            | 320   | 435            | 324   | 440            | 328   |
| Maximum Power Voltage (Vmp)               | V | 31.8           | 29.3  | 31.9           | 29.3  | 32.0           | 29.4  |
| Maximum Power Current (Imp)               | A | 13.52          | 10.95 | 13.64          | 11.05 | 13.75          | 11.14 |
| Open-circuit Voltage (Voc)                | V | 38.0           | 34.6  | 38.2           | 34.8  | 38.4           | 34.9  |
| Short-circuit Current (Isc)               | A | 14.24          | 11.49 | 14.32          | 11.56 | 14.45          | 11.66 |
| Module Efficiency STC                     | % | 22.02          |       | 22.28          |       | 22.53          |       |
| Operating Temperature                     |   | -40°C~85°C     |       |                |       |                |       |
| Maximum system voltage                    |   | DC1500V(IEC)   |       |                |       |                |       |
| Maximum series fuse rating                |   | 25A            |       |                |       |                |       |
| Power tolerance                           |   | 0~+5 Watt      |       |                |       |                |       |
| Temperature coefficients of Pmax          |   | -0.30%/°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

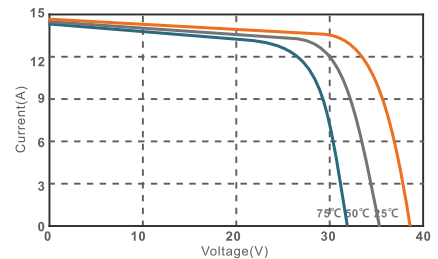
\*NOCT : Air temperature: 20°C, Irradiance: 800 W/m², Air mass: 1.5G, Wind speed: 1 m/s

## I-V CURVE

I-V characteristics at different irradiances

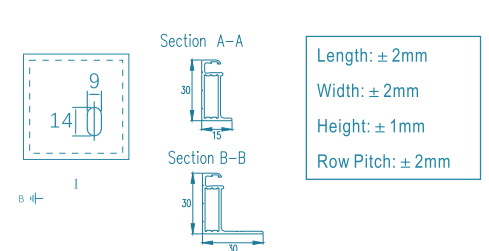
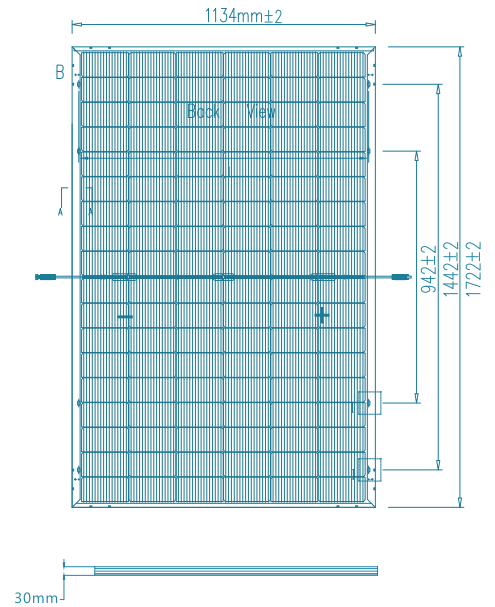


I-V characteristics at different temperature (7°C, 25°C, 45°C)



## SPECIFICATIONS

|                                    |   |
|------------------------------------|---|
| Cell Type                          | 182x91mm N type Mono-crystalline  |
| No. of cells                       | 108 (6x9x2)   |
| Dimensions                         | 1722*1134*30mm  |
| Weight                             | 24.9Kg  |
| Glass                              | 2.0mm+2.0mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass |
| Junction Box                       | IP68, 3 diodes  |
| Connector                          | MC4 Compatible  |
| Cable Length (Including Connector) | 4mm²<br>Portrait: (+)400 mm/(-) 200mm<br>Landscape: (+) 1100mm/(-)1100 mm         |
| Packaging Configuration            | Two Box=One pallet<br>36pcs/Box, 72pcs/Pallet, 936pcs/40HQ Container              |



### Electrical characteristics with different rear side power gain (reference to 435W front)

| Pmax/W | Voc/V | Isc/A | Vmp/V | Imp/A | Pmax gain |
|--------|-------|-------|-------|-------|-----------|
| 435    | 38.2  | 14.32 | 31.9  | 13.64 | 0         |
| 457    | 38.2  | 15.04 | 31.9  | 14.32 | 5%        |
| 479    | 38.2  | 15.75 | 31.9  | 15.00 | 10%       |
| 500    | 38.2  | 16.47 | 31.9  | 15.68 | 15%       |
| 522    | 38.2  | 17.18 | 31.9  | 16.36 | 20%       |
| 544    | 38.2  | 17.90 | 31.9  | 17.05 | 25%       |
| 566    | 38.2  | 18.62 | 31.9  | 17.73 | 30%       |

