

EVO 5N

**615-635W**

SE5-78HBD

N-type TOPCon  
Bifacial Dual Glass Solar Module**22.72%**

Max. Module Efficiency

**10-30% Additional Power Generation**

30 years lifespan brings 10-30% additional power generation comparing with conventional P-type module.

**ZERO LID (Light Induced Degradation)**

N-type solar cell has no LID naturally which can increase power generation.

**Higher Reliability**

Adopted SunEvo latest S-TOPCo 2.0 technology, No polysilicon wrap around, Full electrical isolation, Zero leakage current; Much Safer for roof.

**Better Weak Illumination Response**

Higher power output even under low-light environments like on cloudy or foggy days.

**Better Temperature Coefficient**

Higher power generation under working conditions, thanks to passivating contact cell technology.

**Quality Management System and Product Certification**

IEC61215/61730, IEC62804(PID), IEC61701(Salt),  
IEC62716 (Ammonia), IEC60068-2-68(Sand),  
ISO 9001:2015/quality management system,  
ISO 14001:2015/environmental management system,  
ISO 45001:2018/occupation health safety management system,  
ISO 50001:2011/energy management system,  
IEC TS 62941-2016/PV industry quality management system.

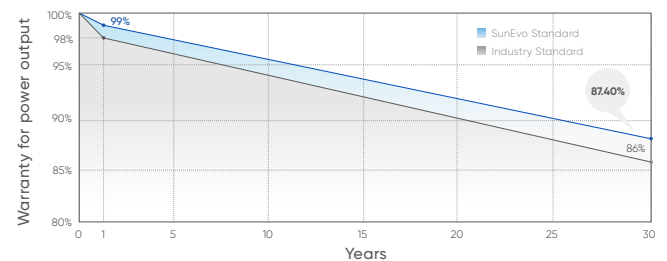
**Quality Guarantee**

25 year

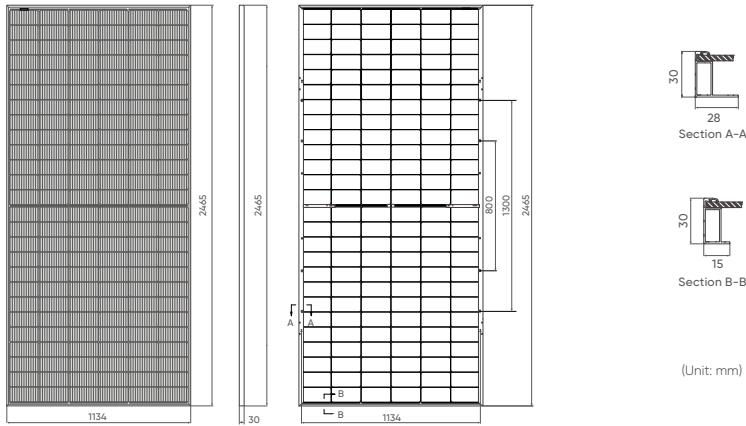
Materials Warranty

30 year

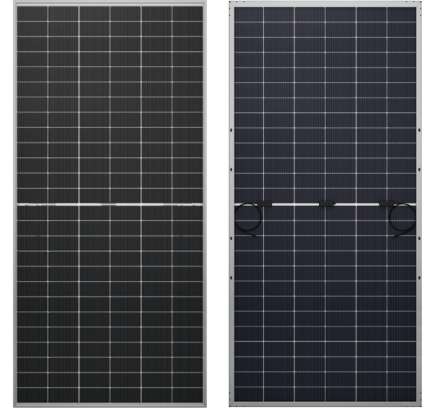
Power Warranty



Drawings



Product Image



Mechanical Characteristics

|                      |  |
|----------------------|--|
| Solar Cells          | N-type Mono  |
| No. of Cells         | 156 (6x26)   |
| Dimensions           | 2465 x 1134 x 30mm   |
| Weight               | 34.5kg   |
| Glass                | Front: 2.0mm coated semi-tempered glass; Back: 2.0mm semi-tempered glass |
| Frame                | Anodized aluminium alloy   |
| Junction Box         | Ip68 rated (3 by pass diodes)  |
| Output Cables        | 4mm <sup>2</sup> , 300mm (+) / 300mm (-), Length can be customized       |
| Connectors           | MC4 compatible   |
| Mechanical Load Test | 5400Pa   |
| Packaging            | 36pcs/box, 144pcs/20'GP, 576pcs/40'HQ                                    |

Operating Characteristics

|                              |                |
|------------------------------|----------------|
| Operating Module Temperature | -40°C to +85°C |
| Maximum System Voltage       | 1500V DC (IEC) |
| Maximum Series Fuse Rating   | 30A            |
| Power Tolerance              | 0~+5W          |

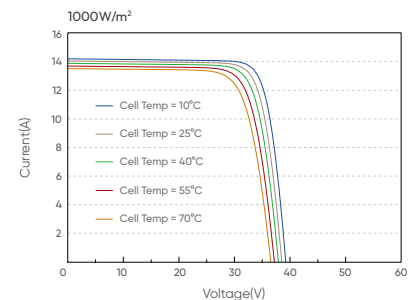
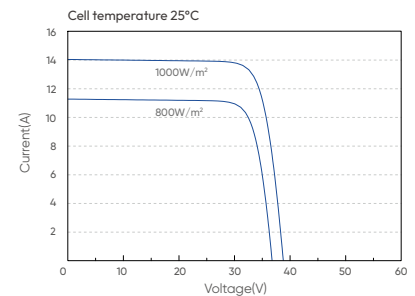
Temperature Characteristics

|                                      |            |
|--------------------------------------|------------|
| Nominal Operating Temperature (NMOT) | 45±2°C     |
| Temperature Coefficient of Pmax      | -0.29%/°C  |
| Temperature Coefficient of Voc       | -0.25%/°C  |
| Temperature Coefficient of Isc       | +0.045%/°C |

Electrical Parameters (STC\*)

| Module Type: SE5-78HBD            | 615   | 620   | 625   | 630   | 635   |
|-----------------------------------|-------|-------|-------|-------|-------|
| Maximum Power (Pmax/W)            | 615   | 620   | 625   | 630   | 635   |
| Voltage at Maximum Power (Vmpp/V) | 47.20 | 47.37 | 47.54 | 47.70 | 47.86 |
| Current at Maximum Power (Impp/A) | 13.03 | 13.09 | 13.15 | 13.21 | 13.27 |
| Open Circuit Voltage (Voc/V)      | 56.69 | 56.82 | 56.95 | 57.08 | 57.21 |
| Short Circuit Current (Isc/A)     | 13.68 | 13.74 | 13.80 | 13.86 | 13.92 |
| Module Efficiency (%)             | 22.00 | 22.18 | 22.36 | 22.54 | 22.72 |

I-V Curve



Bifacial Output (Rearside Power Gain)

|     |                           | 615   | 620   | 625   | 630   | 635   |
|-----|---------------------------|-------|-------|-------|-------|-------|
| 5%  | Maximum Power (Pmax/W)    | 646   | 651   | 656   | 662   | 667   |
|     | Module Efficiency STC (%) | 23.10 | 23.29 | 23.48 | 23.66 | 23.85 |
| 15% | Maximum Power (Pmax/W)    | 707   | 713   | 719   | 725   | 730   |
|     | Module Efficiency STC (%) | 25.30 | 25.51 | 25.71 | 25.92 | 26.12 |
| 25% | Maximum Power (Pmax/W)    | 769   | 775   | 781   | 788   | 794   |
|     | Module Efficiency STC (%) | 27.50 | 27.73 | 27.95 | 28.17 | 28.40 |

1. Standard Test Conditions [STC]: irradiance 1000W/m<sup>2</sup>, AM 1.5, ambient temperature 25°C according to EN 60904-3;  
 2. Tolerance of Pm: 0~+5W, Measuring uncertainty of power: ±3%. Performance deviation of Voc [V], Isc [A], Vm [V] and Im [A]: ±3%.