

EVO 5N

# 620-640W

SE5-78HBD

N-type TOPCon Ultra Black  
Bifacial Dual Glass Solar Module

22.90%  
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

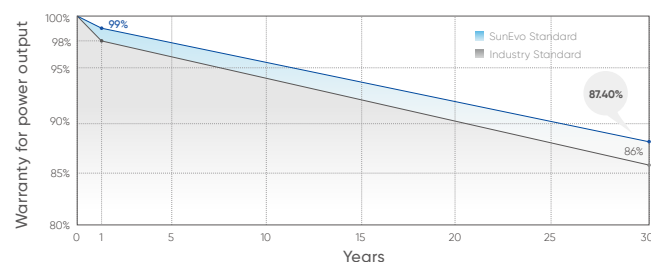
Higher power generation under working conditions, thanks to passivating contact cell technology.

### Quality Management System and Product Certification

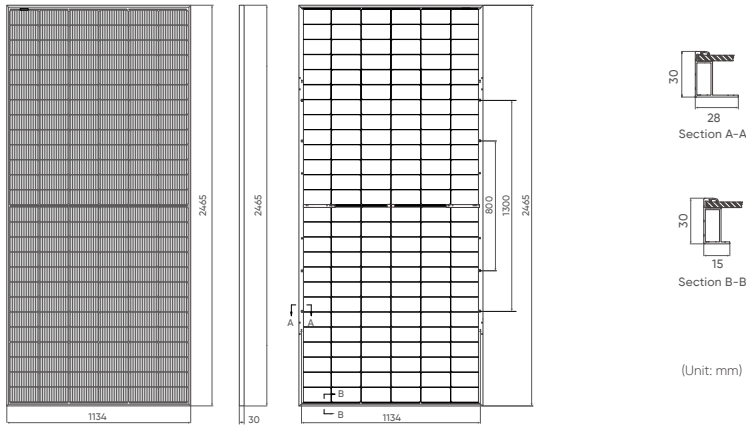
IEC61215/61730, IEC62804(PID), IEC61701(Salt),  
IEC62716 (Ammonia), IEC60068-2-68(Sand),  
ISO 9001:2015/quality management system,  
ISO 14001:2015/environmental management system,  
ISO 45001:2018/occupation health safety management system,  
ISO 50001:2011/energy management system,  
IEC TS 62941-2016/PV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

### Quality Guarantee

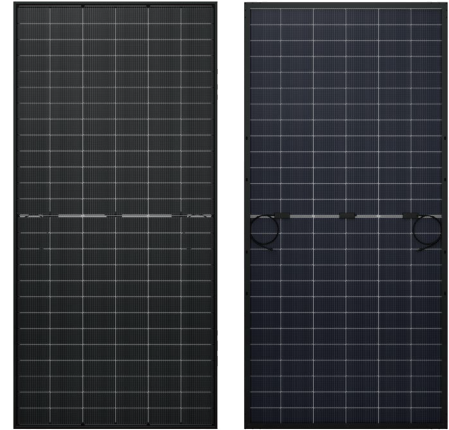
15 year Materials Warranty      30 year Power Warranty



Drawings



Product Image



Mechanical Characteristics

Solar Cells	TNC (N Type Monocrystalline Cell)
No. of Cells	156 (6 × 26)
Dimensions	2465±2 × 1134±2 × 30mm
Weight	33.8kg
Front/Rear Glass	2.0mm AR coated heat strengthened glass/2.0mm heat strengthened glass
Frame	Anodized aluminum alloy frame
Junction Box	IP68,3 diodes
Output Cables	4mm <sup>2</sup>
Cable Length	+400mm, -200mm, length can be customized
Wind/Snow Load	2400Pa/5400Pa
Packaging	36pcs per pallet, 576pcs per 40'HC

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
Bifaciality	80±5%

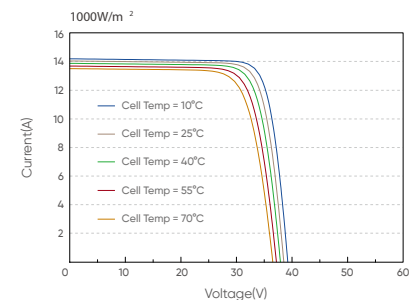
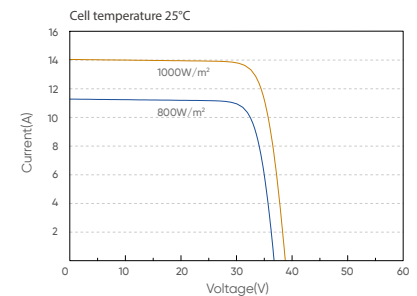
Temperature Characteristics

Nominal Operating Temperature (NMOT)	45±2°C
Temperature Coefficient of Pmax	-0.28%/°C
Temperature Coefficient of Voc	-0.24%/°C
Temperature Coefficient of Isc	+0.046%/°C

Electrical Parameters (STC\*)

Module Type: SE5-78HBD	620	625	630	635	640
Voltage at Maximum Power (V <sub>mpp</sub> /V)	47.54	47.71	47.88	48.05	48.22
Current at Maximum Power (I <sub>mpp</sub> /A)	13.05	13.10	13.16	13.22	13.28
Open Circuit Voltage (V <sub>oc</sub> /V)	56.60	56.80	57.00	57.20	57.40
Short Circuit Current (I <sub>sc</sub> /A)	13.70	13.74	13.78	13.82	13.86
Module Efficiency (%)	22.20	22.40	22.50	22.70	22.90

I-V Curve



Bifacial Output (Rearside Power Gain)

		620	625	630	635	640
5%	Maximum Power (P <sub>max</sub> /W)	651.0	656.3	661.5	666.8	672.0
	Module Efficiency STC (%)	23.30	23.50	23.70	23.90	24.00
15%	Maximum Power (P <sub>max</sub> /W)	713.0	718.8	724.5	730.3	736.0
	Module Efficiency STC (%)	25.50	25.70	25.90	26.10	26.30
25%	Maximum Power (P <sub>max</sub> /W)	775.0	781.3	787.5	793.8	800.0
	Module Efficiency STC (%)	27.70	27.90	28.20	28.40	28.60

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 P<sub>m</sub>: 0~+5W, Measuring uncertainty of power: ±3%. Performance deviation of Voc [V], Isc [A], Vm [V] and Im [A]: ±3%.