

EVO 5N

415-435W

SE5-54HBD

N-type TOPCon Ultra Black
Bifacial Dual Glass Solar Module

22.27%

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.

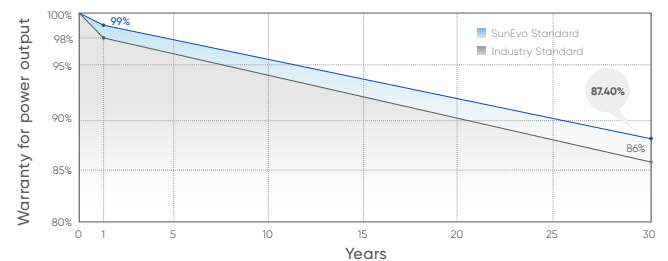
Quality Guarantee

25 year

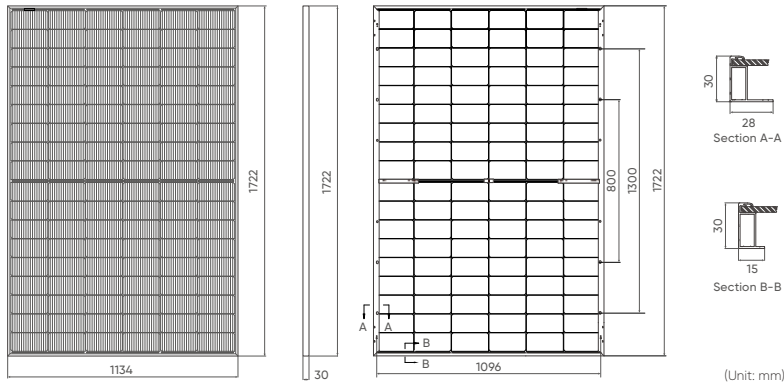
Materials Warranty

30 year

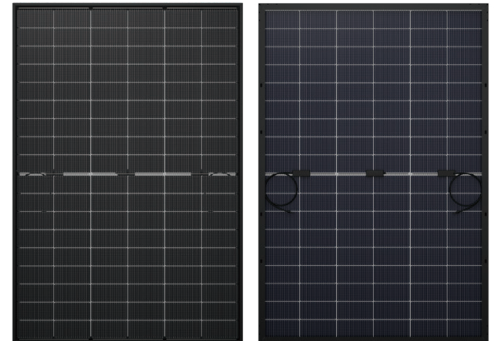
Power Warranty



Drawings



Product Image



Mechanical Characteristics

Solar Cells	N-type Mono
No. of Cells	108 (6×18)
Dimensions	1722 × 1134 × 30mm
Weight	23.5kg
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 ² , 300mm (+) / 300mm (-), Length can be customized
Connectors	MC4 compatible
Mechanical Load Test	5400Pa
Packaging	36pcs/box, 216pcs/20'GP, 936pcs/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

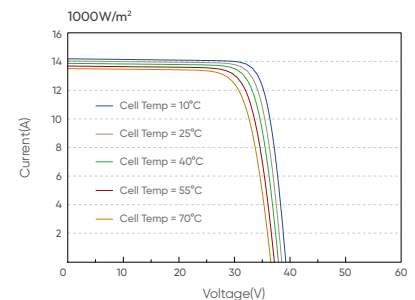
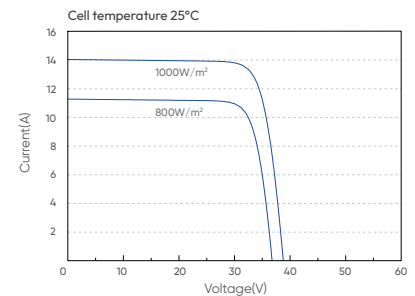
Temperature Characteristics

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: SE5-54HBD	415	420	425	430	435
Maximum Power (Pmax/W)	415	420	425	430	435
Voltage at Maximum Power (Vmpp/V)	32.75	32.92	33.09	33.26	33.43
Current at Maximum Power (Impp/A)	12.67	12.76	12.85	12.93	13.01
Open Circuit Voltage (Voc/V)	38.70	38.85	39.00	39.15	39.30
Short Circuit Current (Isc/A)	13.52	13.57	13.62	13.67	13.72
Module Efficiency (%)	21.25	21.51	21.76	22.02	22.27

I-V Curve



Bifacial Output (Rearside Power Gain)

		436	441	446	452	457
5%	Maximum Power (Pmax/W)	436	441	446	452	457
	Module Efficiency STC (%)	22.31	22.58	22.85	23.12	23.39
15%	Maximum Power (Pmax/W)	477	483	489	495	500
	Module Efficiency STC (%)	24.44	24.73	25.03	25.32	25.62
25%	Maximum Power (Pmax/W)	519	525	531	538	544
	Module Efficiency STC (%)	26.57	26.89	27.21	27.53	27.85

1. Standard Test Conditions [STC]: irradiance 1000W/m², 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%.