

EVO 5N

465-485W

SE5-60H

N-type TOPCon
Ultra Black Solar Module



22.39%

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.

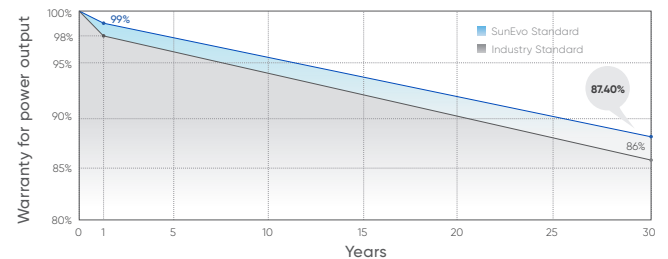
Quality Guarantee

25 year

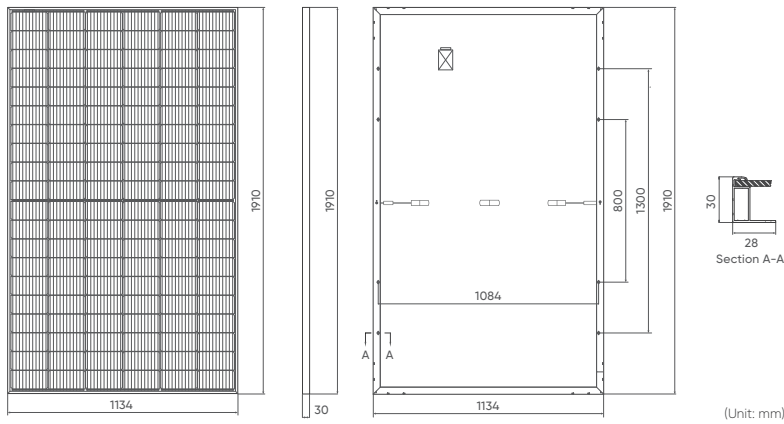
Materials Warranty

30 year

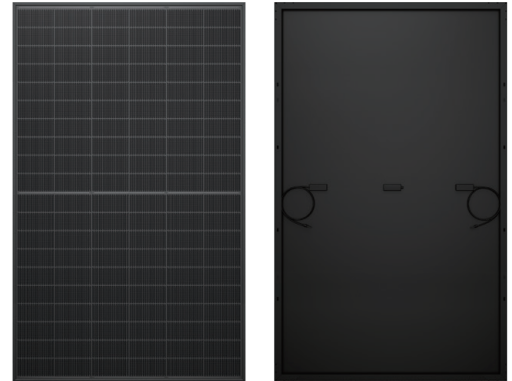
Power Warranty



Drawings



Product Image



Mechanical Characteristics

Solar Cells	N-type Mono
No. of Cells	120 (6×20)
Dimensions	1910 × 1134 × 30mm
Weight	23.0kg
Front Glass	3.2mm coated 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, 864pcs/40'HQ

Operating Characteristics

Operating Module Temperature	-40°C to +85°C
Maximum System Voltage	1500V DC (IEC)
Maximum Series Fuse Rating	25A
Power Tolerance	0~+5W

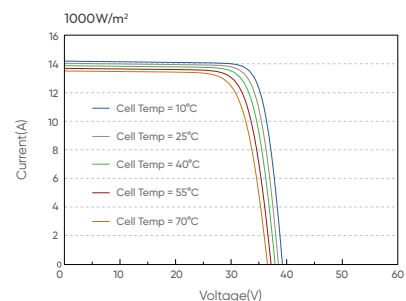
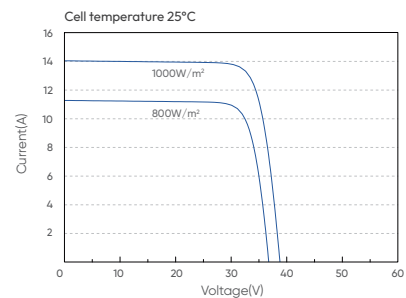
Temperature Characteristics

Nominal Operating Temperature (NMOT)	45±2°C
Temperature Coefficient of Pmax	-0.30%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	+0.046%/°C

Electrical Parameters (STC*)

Module Type: SE5-60H	465	470	475	480	485
Maximum Power (Pmax/W)	465	470	475	480	485
Voltage at Maximum Power (Vmpp/V)	36.62	36.79	36.96	37.13	37.30
Current at Maximum Power (Impp/A)	12.70	12.78	12.85	12.93	13.00
Open Circuit Voltage (Voc/V)	43.17	43.34	43.51	43.68	43.85
Short Circuit Current (Isc/A)	13.50	13.55	13.60	13.65	13.70
Module Efficiency (%)	21.47	21.70	21.93	22.16	22.39

I-V Curve



Electrical Parameters (NMOT*)

Maximum Power (Pmax)	350	356	360	363	367
Voltage at Maximum Power (Vmpp/V)	35.24	35.41	35.58	35.74	35.90
Current at Maximum Power (Impp/A)	993	10.03	10.09	10.15	10.20
Open Circuit Voltage (Voc/V)	41.06	41.22	41.38	41.54	41.71
Short Circuit Current (Isc/A)	10.62	10.67	10.71	10.74	10.78

1. Standard Test Conditions [STC]: irradiance 1000W/m²; AM 1.5; ambient temperature 25°C according to EN 60904-3;
 2. Nominal Module Operating Temperature (NMOT): Irradiance 800W/m²; wind speed 1m/s, ambient temperature 20°C.
 3. Tolerance of Pm: 0~+5W, Measuring uncertainty of power: ±3%. Performance deviation of Voc [V], Isc [A], Vm [V] and Im [A]: ±3%.