



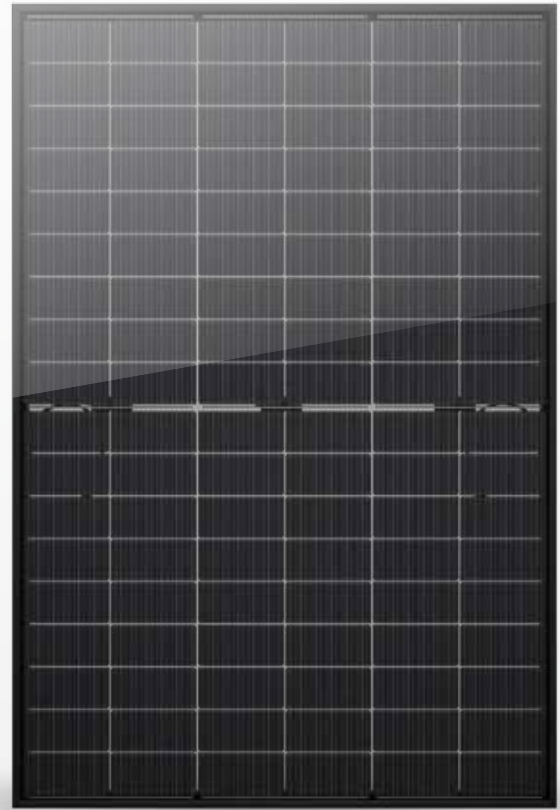
410-430W

N-type TOPCon
Bifacial Dual Glass Solar Module

Qualidade Garantida

25-Year Warranty for Materials and Processing
30-Year Warranty for Extra Linear Power Output

22.02%
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

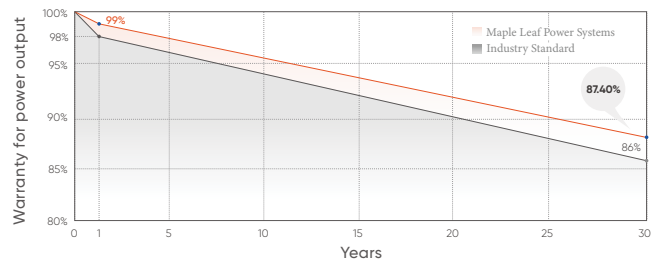
Adopted SunEvo latest S-TOPCo 2.0 technology,
No polysilicon wrap around, Full electrical isolation,
Zero leakage current; Much Safer for roof.

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.



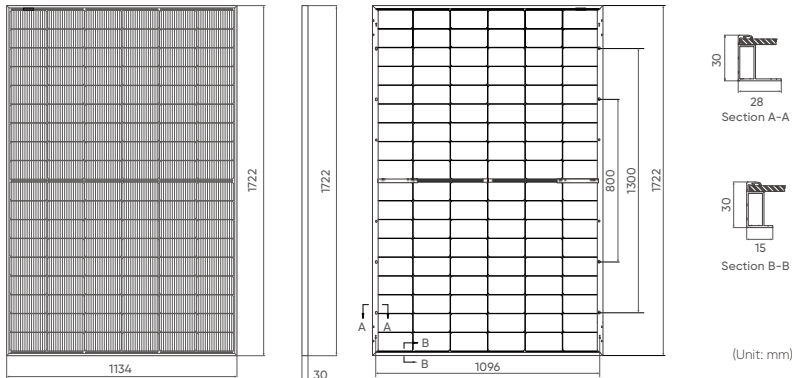
* Please refer to Mate Solar standard warranty for details

Quality Management System And Product Certification

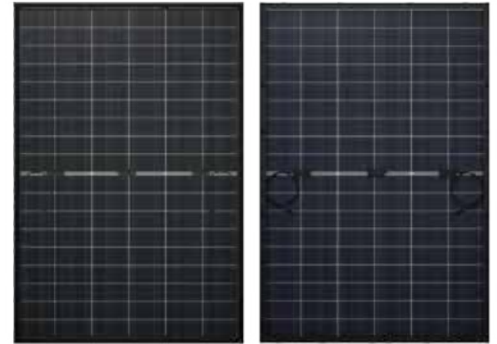
IEC61215/61730, IEC62804(PID), IEC61701(Salt),
IEC62716 (Ammonia), IEC60068-2-68(Sand),
ISO 9001:2015/quality management system.
ISO 14001:2015/environmental management system.
ISO 45001:2018/occupation health safety management system
ISO 50001:2011/energy management system.
IEC TS 62941-2016/PV industry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



Drawings



Product Image



Mechanical Parameters

Solar Cells	N-type Mono
No. of Cells	108 (6x18)
Dimensions	1722 x 1134 x 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	1500 DC (IEC)
Maximum Series Fuse Rating	30A
Power Tolerance	0/+5W

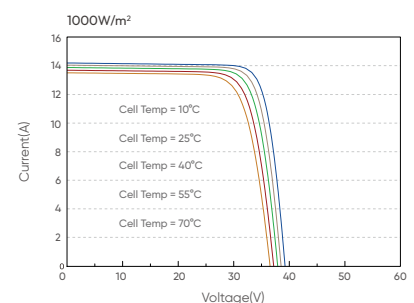
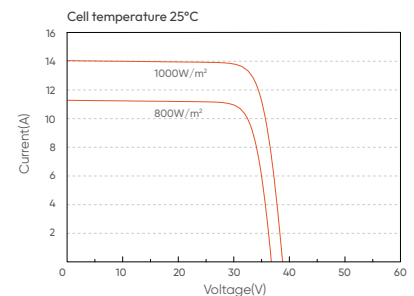
Temperature Characteristics

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 Characteristics (STC*)

Module Type:	410	415	420	425	430
Maximum power (Pmax/W)	410	415	420	425	430
Open Circuit Voltage (Voc/V)	38.01	38.25	38.49	38.73	38.96
Short Circuit Current (Isc/A)	13.85	13.92	13.99	14.06	14.13
Voltage at Maximum power (Vmpp/V)	31.20	31.42	31.63	31.84	32.04
Current Maximum Power (Impp/A)	13.14	13.21	13.28	13.35	13.42
MODULE EFFICIENCY (%)	21.00	21.25	21.51	21.76	22.02

I-V Curve



Bifacial Output-Rearside Power Gain

		Rearside Power Gain (%)				
		410	415	420	425	430
5%	Maximum Power (Pmax/W)	431	436	441	446	452
	Module Efficiency STC (%)	22.05	22.31	22.58	22.85	23.12
15%	Maximum Power (Pmax/W)	472	477	483	489	495
	Module Efficiency STC (%)	24.15	24.44	24.73	25.03	25.32
25%	Maximum Power (Pmax/W)	513	519	525	531	538
	Module Efficiency STC (%)	26.25	26.57	26.89	27.21	27.53

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%.