

MT5-Pro

425-450W

N-type TOPCon Black Frame
Solar Module

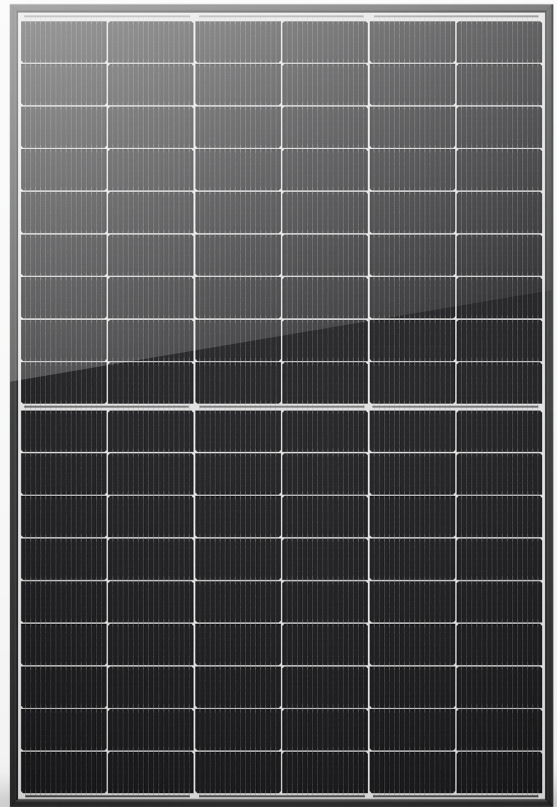
Qualidade Garantida

25-Year Warranty for Materials and Processing

30-Year Warranty for Extra Linear Power Output

23.04%

Max. Module Efficiency



MS-54H

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

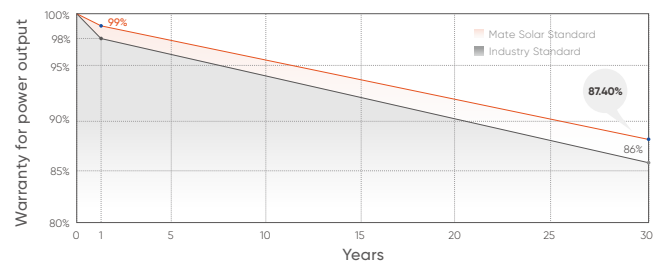
Adopted Mate Solar latest S-TOPCo 2.0 technology,
No polysilicon wrap around, Full electrical isolation,
Zero leakage current; Much Safer for roof.

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.

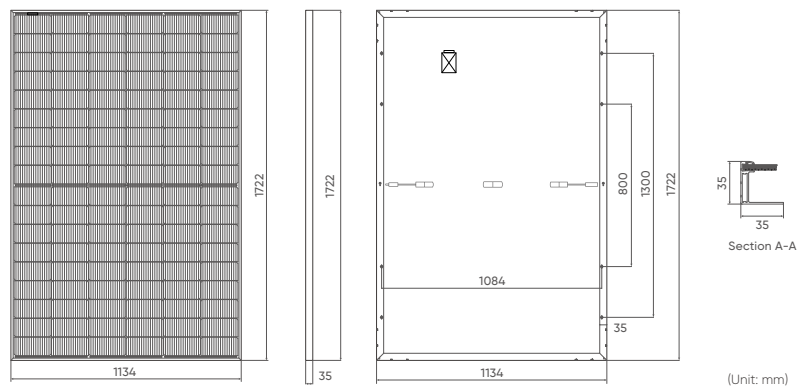
ISO 45001:2018/occupation health safety management system

ISO 50001:2011/energy management system.

IEC TS 62941-2016/PV industry quality management system .



Drawings



Mechanical Parameters

Solar Cells	N-type Mono
No. of Cells	108 (6×18)
Dimensions	1722 × 1134 × 30mm
Weight	21.0kg
Front Glass	3.2mm coated tempered glass
Frame	Black 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

Electrical Characteristics (STC*)

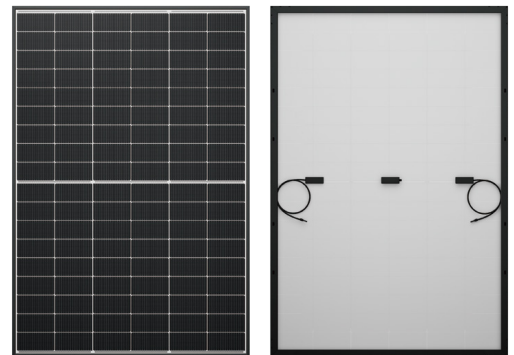
Module Type: MS-54H	425	430	435	440	445	450
Maximum power (Pmax/W)	425	430	435	440	445	450
Open Circuit Voltage (Voc/V)	38.73	38.95	39.16	39.38	39.59	39.78
Short Circuit Current (Isc/A)	13.66	13.73	13.80	13.86	13.93	14.00
Voltage at Maximum power (Vmpp/V)	32.15	32.38	32.59	32.81	33.02	33.21
Current Maximum Power (Impp/A)	13.22	13.28	13.35	13.41	13.48	13.55
MODULE EFFICIENCY (%)	21.76	22.02	22.28	22.53	22.79	23.04

Electrical Characteristics (NMOT*)

Maximum Power: Pmax [W]	319	323	327	331	335	338
Open Circuit Voltage: Voc [V]	36.79	37.00	37.20	37.41	37.61	37.79
Short Circuit Current: Isc [A]	11.04	11.09	11.14	11.19	11.25	11.30
Voltage at Maximum Power: Vmp [V]	29.87	30.10	30.33	30.56	30.76	30.90
Current at Maximum Power: Imp [A]	10.68	10.73	10.78	10.83	10.89	10.94

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

Product Image



Operating Characteristics

Operating Module Temperature	-40°C to +85°C
Maximum System Voltage	1500 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

I-V CURVE

