

TOPCon N type Bifacial Mono-crystalline 410-430Watt

0~+5W POWER TOLERANCE

High efficiency TOPCon N - type solar module



Module characteristics



Strong Mechanical Strength

Pass the wind load test of 2400Mpa and the snow load test of 5400Mpa



Low attenuation rate

N-type, good reliability and lower LID/LETID attenuation rate.



PID resistance

The attenuation probability of PID phenomenon is minimized through solar cell production technology optimization and robust raw material quality control



Harsh environmental adaptation

Robust design for demanding climate conditions.



MBB and Half cell technique

More light utilization and current collection capabilities, effectively improving product power output and reliability



Long and reliable quality assurance

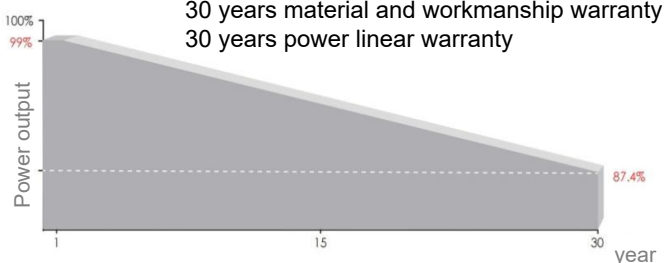
IEC61215(2016), IEC61730(2016)

ISO9001:2015: Quality management system

ISO14001:2015: Environmental management system

ISO45001:2018: Occupational health and safety management system

30 years material and workmanship warranty
30 years power linear warranty



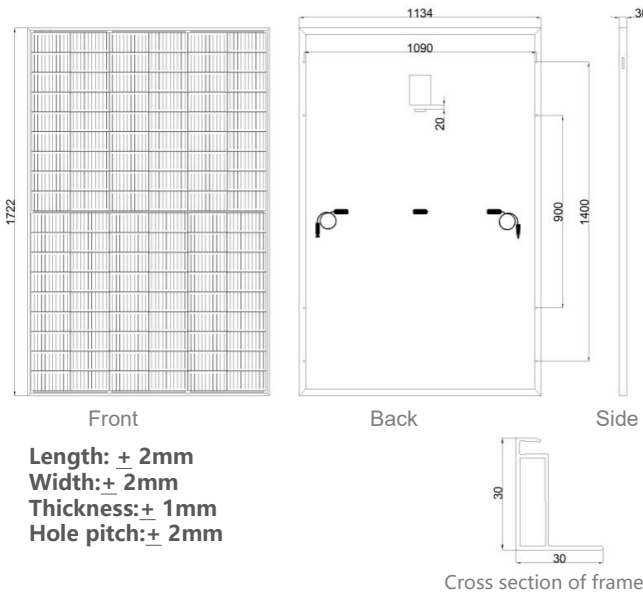
Linear decay of 0.4% per year over 30 years

Electrical Parameters

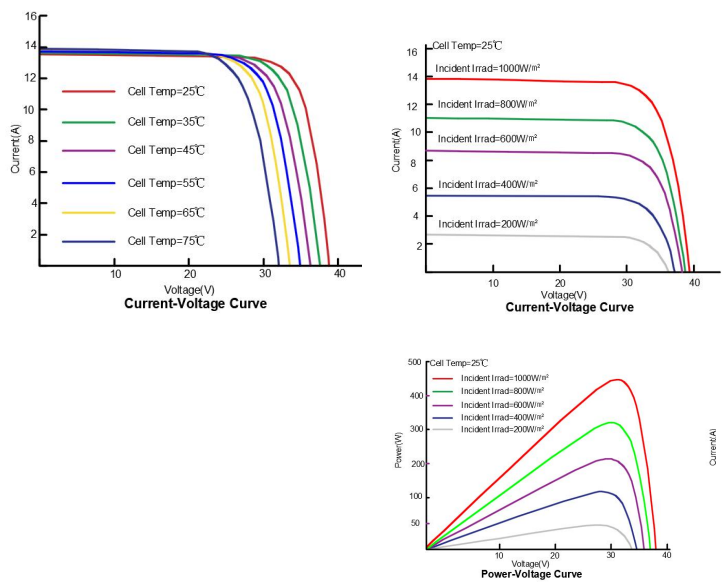
Model Type	ESM-410T		ESM-415T		ESM-420T		ESM-425T		ESM-430T	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	410	309.6	415	315	420	318	425	322	430	326
Open Circuit Voltage (Voc)	37.5	35.2	37.7	36.0	37.9	36.2	38.1	36.4	38.3	36.6
Short Circuit Current (Isc)	13.88	11.16	13.96	11.22	14.04	11.27	14.11	11.33	14.18	11.38
Maximum Power Voltage (Vmp)	31.6	29.2	31.8	29.8	32.0	30.0	32.2	30.2	32.4	30.3
Maximum Power Current (Imp)	12.98	10.62	13.06	10.56	13.13	10.62	13.20	10.67	13.28	10.74
Module Efficiency - η_m (%)	21.0		21.3		21.5		21.8		22.0	
Operational Temperature	-40°C ~ +85°C									
Maximum System Voltage	1500VDC									
Maximum Series Fuse Rating	25A									
Power Tolerance	0 ~ +3%									
Temperature Coefficient of Pmax	-0.310%/°C									
Temperature Coefficient of Voc	-0.260%/°C									
Temperature Coefficient of Isc	+0.046%/°C									
Nominal Operating Cell Temperature	45 ± 2°C									
Safety Class	Class II									
Max Load (Front/back)	5400Mpa/2400Mpa									

STC: Irradiance 1000W/m² Cell temperature 25°C Atmospheric quality = 1.5
 NOCT: Irradiance 800W/m² Ambient temperature 25°C Atmospheric quality = 1.5 Wind speed 1m/S

Mechanical Diagrams



Curve



Packing Details:

36pcs/pallet, Each pallet size: 1760×1130×1245mm
 40GP: 26 pallets/container, 936pcs/container

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Specification

Cell type	N type mono crystalline 182mm
Half-cell quantity	108 (6×18)
Dimension	1722×1134×30
Weight	21kg±3%
Glass	3.2mm tempered and AR coated
Frame	Silver Anodized Aluminum Alloy
Junction Box	IP68
Cable	1000mm (can be customized)