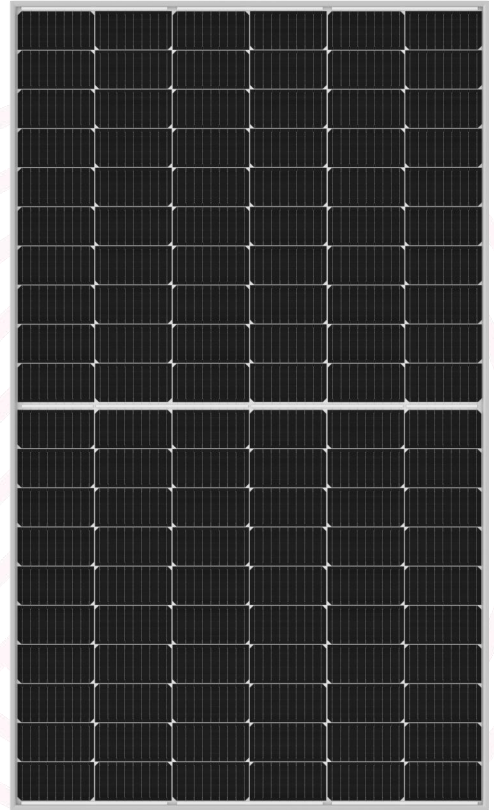


## TOPCon N type Mono-crystalline 435-455 Watt

0~+5W POWER TOLERANCE

High efficiency N-type, white back sheet, silver frame.

16/18BB



### Module Characteristics



#### Strong Mechanical Strength

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



#### Lower Attenuation Rate

N-type, higher efficiency, better reliability and lower LID/LETID attenuation.



#### PID Resistance

The attenuation probability of PID phenomenon is minimized through solar cell production technology optimization and 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 improve product power output and reliability.



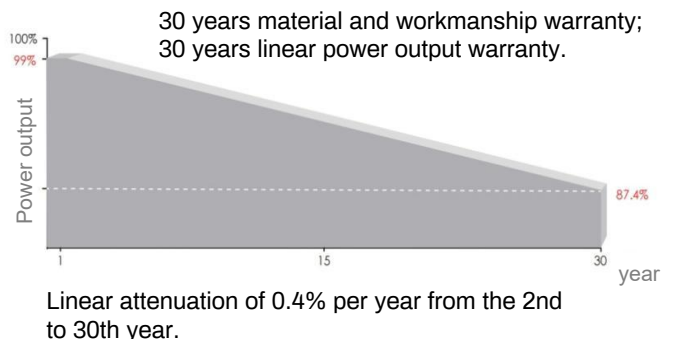
### Long and reliable quality assurance

IEC61215, IEC61730

ISO9001/2015: Quality management system

ISO14001/2015: Environmental management system

ISO45001/2018: Occupational health and safety management system



## Electrical Parameters

Model Type	ESM-435T		ESM-440T		ESM-445T		ESM-450T		ESM-455T	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	435	329	440	333	445	337	450	340	455	345
Open Circuit Voltage (Voc)	40.02	38.24	40.31	38.52	40.60	38.80	40.90	39.04	41.20	39.28
Short Circuit Current (Isc)	13.58	10.90	13.64	10.91	13.7	10.91	13.76	10.92	13.82	10.93
Maximum Power Voltage (Vmp)	33.14	30.99	33.44	31.27	33.75	31.56	34.05	31.84	34.34	32.11
Maximum Power Current (Imp)	13.13	10.62	13.16	10.64	13.19	10.67	13.22	10.69	13.25	10.72
Module Efficiency - $\eta_m$ (%)	22.27		22.53		22.78		23.04		23.30	
Operational Temperature	-40°C~+85°C									
Maximum System Voltage	1500VDC									
Maximum Series Fuse Rating	25A									
Power Tolerance	0~+5w									
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/m<sup>2</sup> Cell temperature 25°C

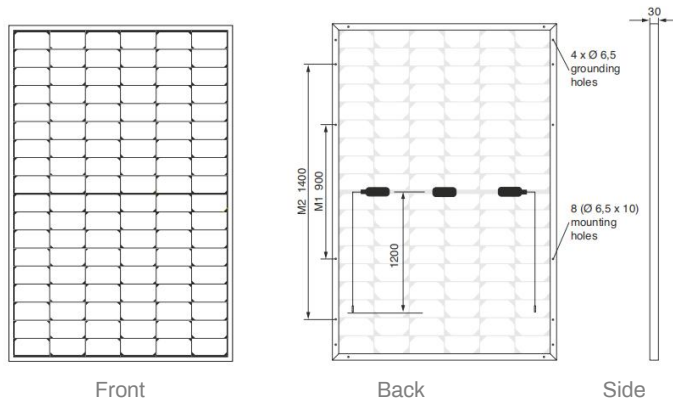
Atmospheric quality =1.5

NOCT: Irradiance 800W/m<sup>2</sup> Ambient temperature 25°C

Atmospheric quality =1.5

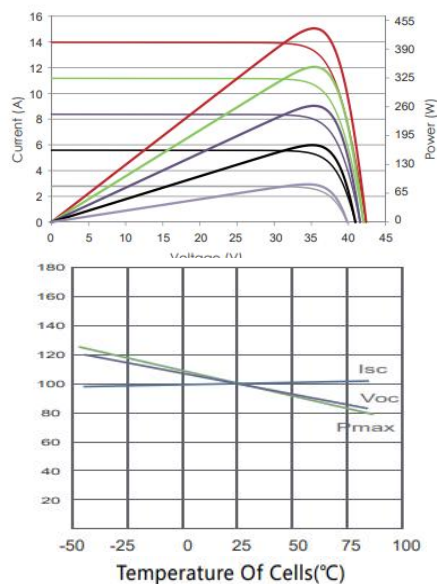
Wind speed 1m/S

## Mechanical Diagrams



Length: ± 2mm  
Width: ± 2mm  
Thickness: ± 1mm  
Hole pitch: ± 2mm

## IV Curve



## Packing Details

36pcs/pallet, Pallet size: 1760×1120×1260mm

40HQ: 26 pallets/container, 936pcs.

20GP: 12 pallets/container, 384pcs.

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## Specification

Cell type	N type mono crystalline 16/18BB
Half-cell quantity	108 (6×18)
Dimension	1722×1134×30
Weight	21kgs±3%
Glass	AR coated & toughened 3.2mm
Frame	Silver Anodized Aluminum Alloy
Junction Box	IP68
	MC4 Compatible connectors
Cable	1000mm (can be customized)