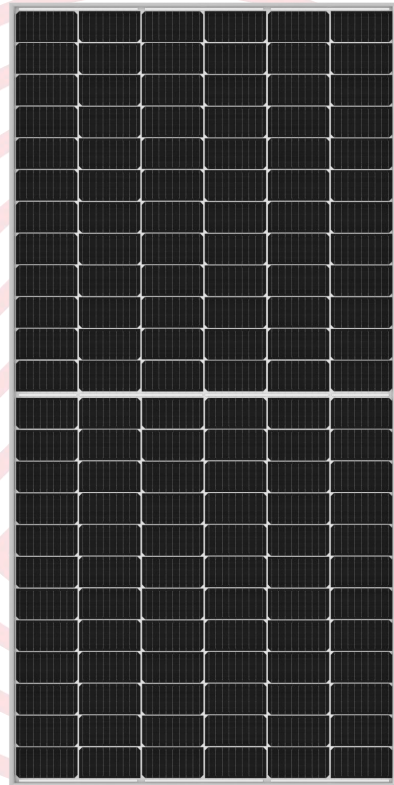
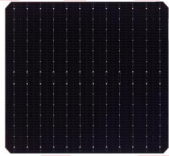


## TOPCon N type Mono-crystalline 410-430 Watt White

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.



#### Lower attenuation

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.



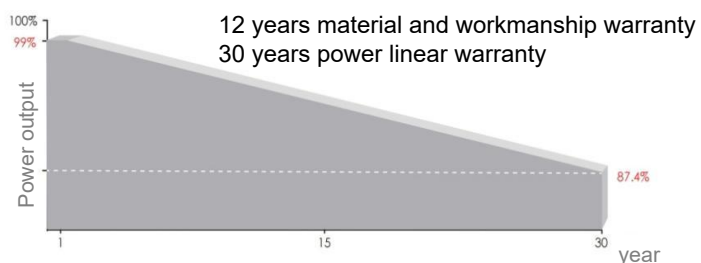
### Long and reliable quality assurance

IEC61215(2016), IEC61730(2016)

ISO9001:2015: Quality management system

ISO14001:2015: Environmental management system

ISO45001:2018: Occupational health and safety management system



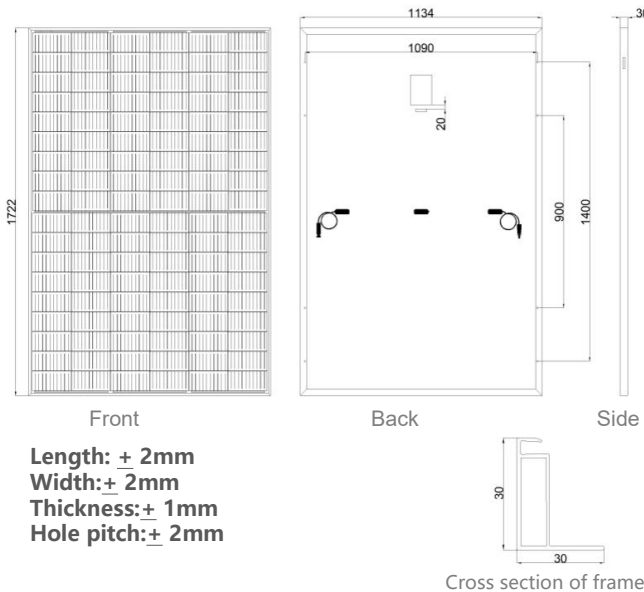
Linear attenuation of 0.4% per year from the 2nd to 30th year.

# Electrical Parameters

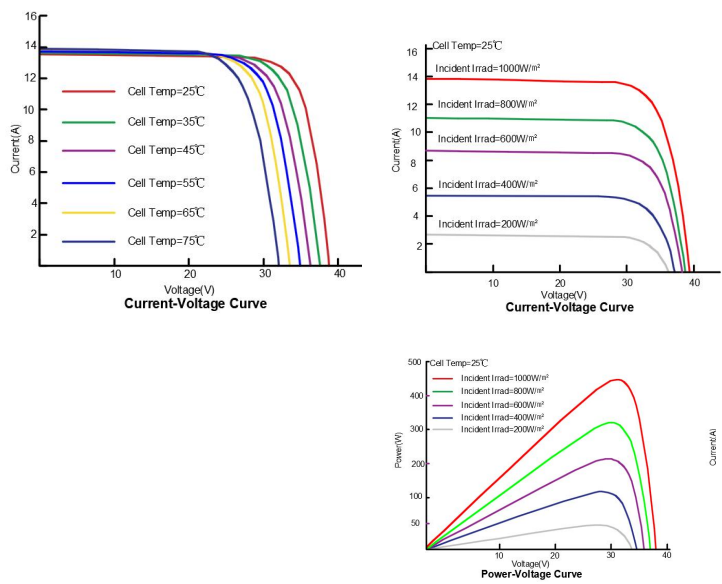
| Model Type                         | ESM-410T        |       | ESM-415T |       | ESM-420T |       | ESM-425T |       | ESM-430T |       |
|------------------------------------|-----------------|-------|----------|-------|----------|-------|----------|-------|----------|-------|
|                                    | 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 - $\eta_m$ (%)   | 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/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



## Curve



## Packing Details:

36pcs/pallet, Each pallet size: 1760×1120×1260mm  
 40GP: 26 pallets/HQ, 936pcs/40HQ

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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)     |

The company reserves the right of final right of adjustment of this file.