

## YCxxxPSF 60 M10/2

The best quality p-type mono cells and production process.  
Professional technology, reliable quality and power generation guarantee.



### Higher Durability

The multi-busbar design can decrease the risk of the cell micro-cracks and fingers broken.



### High Power Density

High conversion efficiency and more power output per square meter, by lower series resistance and improved light harvesting.



### Half-cell Design

Less energy loss caused by shading due to new cell string layout and split J-box, and lower cell connection power loss due to half-cell design.



### Power guarantee

First year attenuation  $\leq 2\%$ , 2-25 year annual attenuation  $\leq 0.55\%$



### Large size cell

The large cell design effectively increases module peak power and effectively reduces BOS costs, thereby reducing system costs.

**21.78%**

Module Efficiency

**12YEAR**

Product Warranty

**0~+5W**

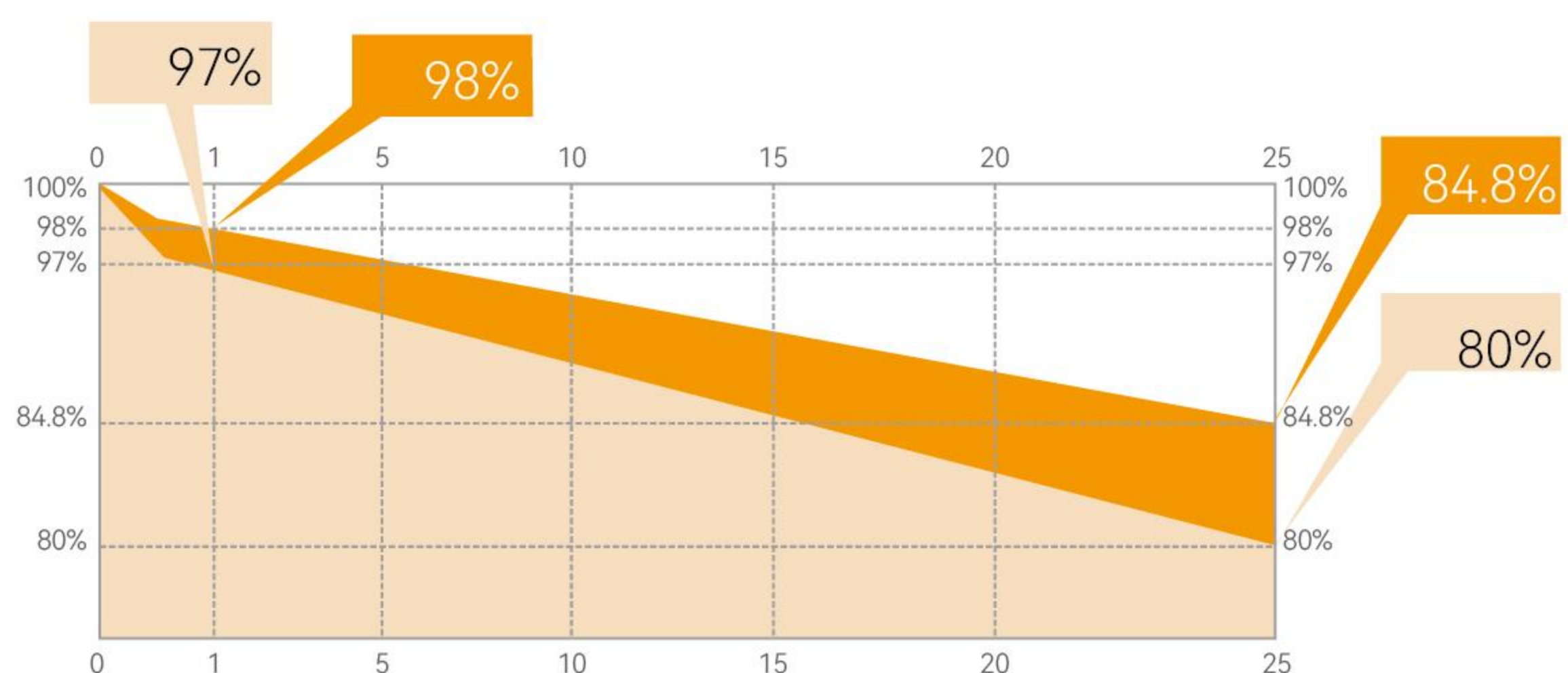
Power tolerance

### QUALIFICATIONS & CERTIFICATES

IEC 61215, IEC 61730, IEC 62941: 2019, CE,  
ISO 9001:2015, ISO 14001:2015,  
ISO 45001:2018

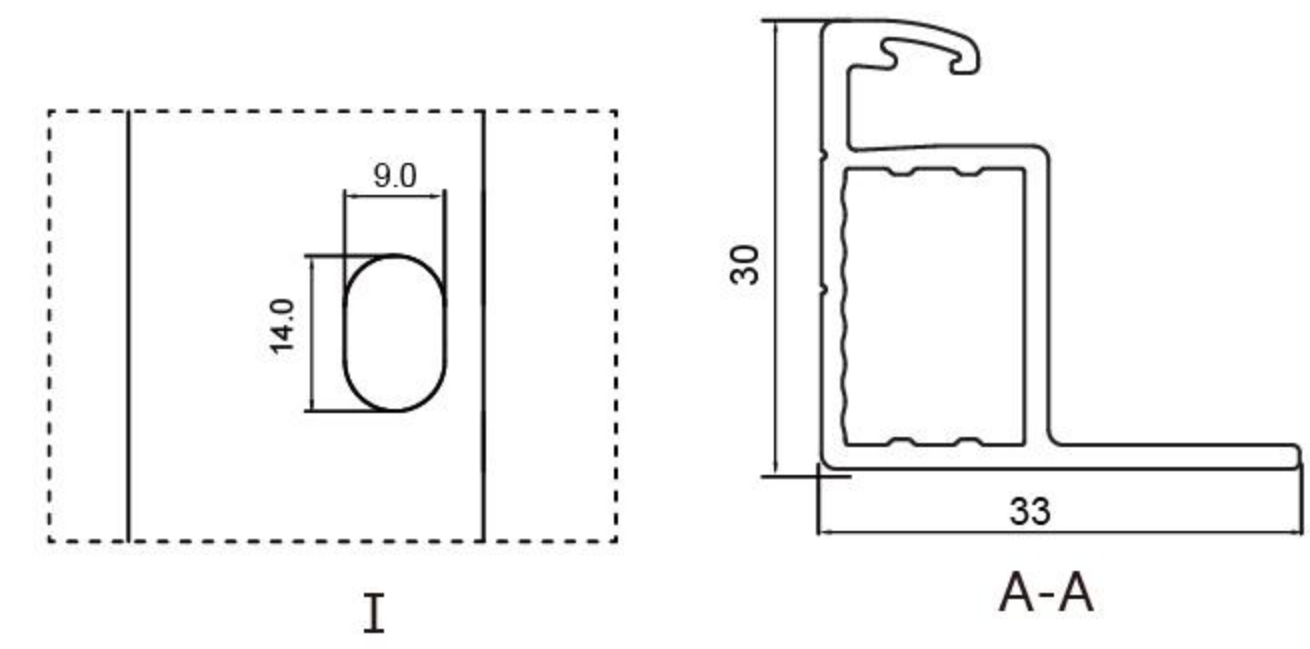
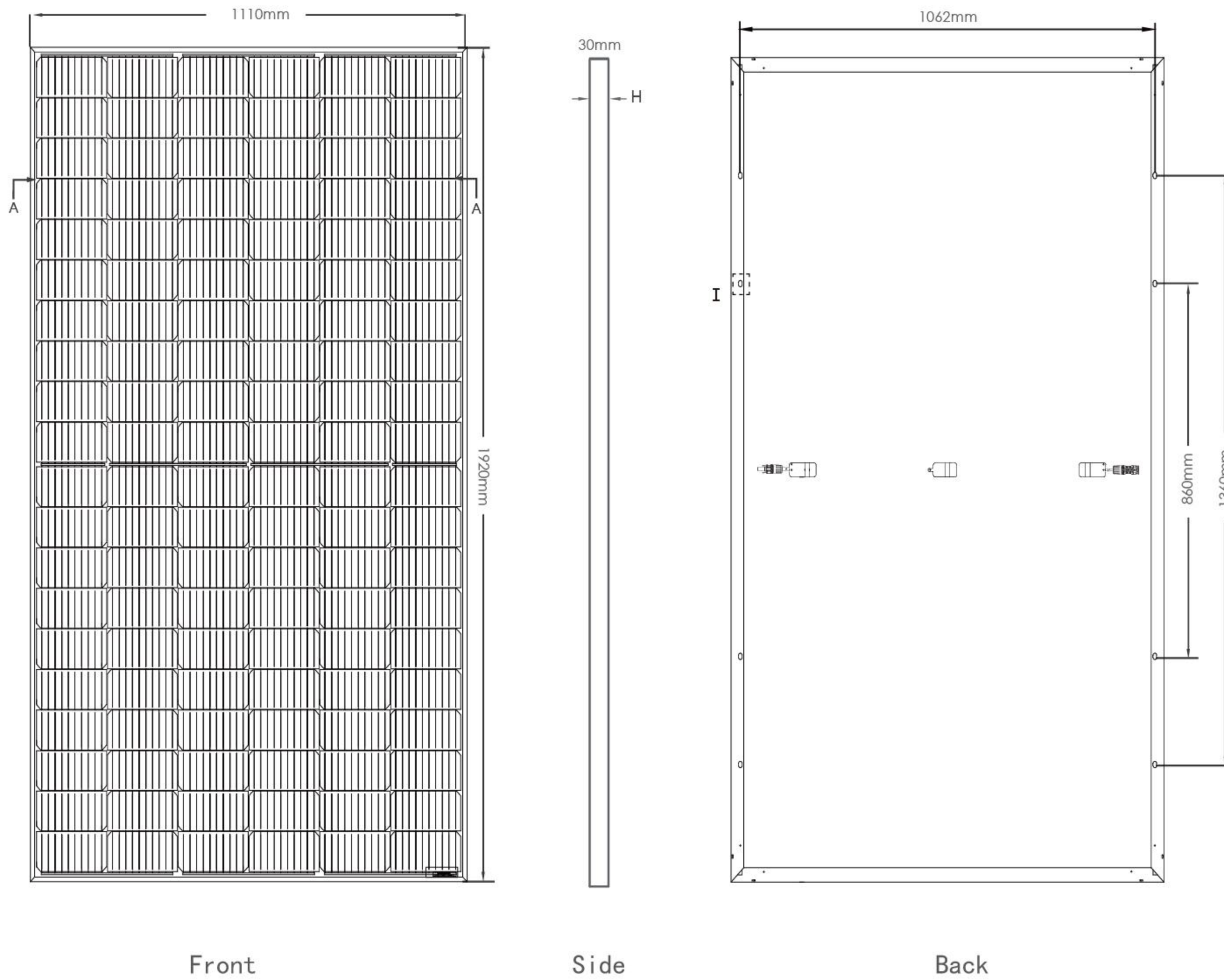
### Linear Warranty

First year attenuation  $\leq 2\%$ , 2-25 year annual attenuation  $\leq 0.55\%$



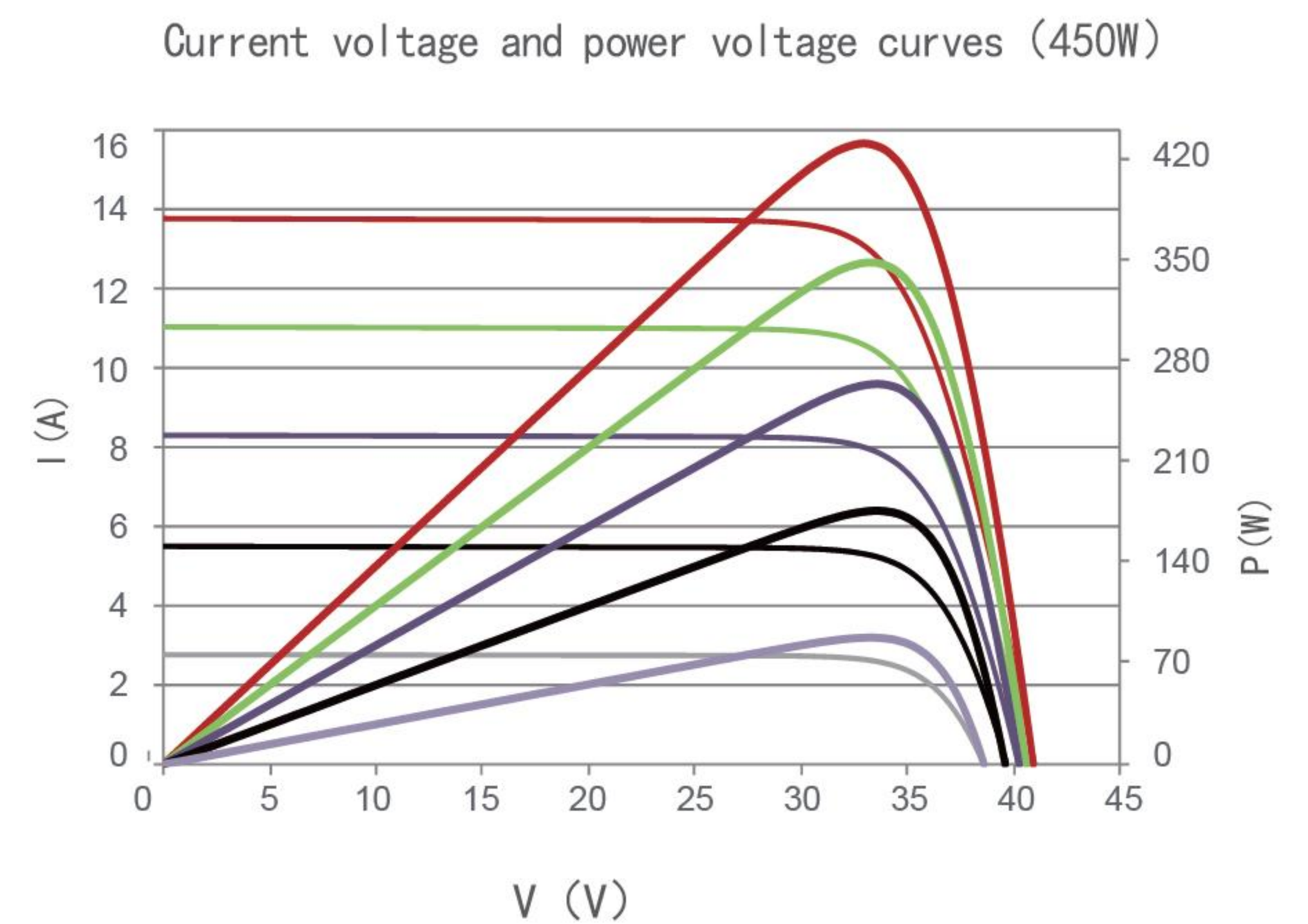
— YC's Linear Performance Warranty — Industry Standard Warranty





Long:  $\pm 2\text{mm}$       Thickness:  $\pm 1\text{mm}$   
 Wide:  $\pm 2\text{mm}$       Hole spacing:  $\pm 2\text{mm}$

## Characteristic curve



## ELECTRICAL PERFORMANCE

### Electrical parameters at Standard Test Conditions (STC)

| Module type             | YC xxx PSF 60 M10/2 (xxx=Pmax) |   |       |       |       |       |       |
|-------------------------|--------------------------------|---|-------|-------|-------|-------|-------|
|                         | $P_{max}$                      | W | 450   | 455   | 460   | 465   | 470   |
| Power output            | $P_{max}$                      | W | 450   | 455   | 460   | 465   | 470   |
| Power output tolerances | $\Delta P_{max}$               | W | 0/+5  |       |       |       |       |
| Module efficiency       | $\eta_m$                       | % | 20.85 | 21.08 | 21.32 | 21.55 | 21.78 |
| Voltage at Pmax         | $V_{mpp}$                      | V | 33.91 | 34.06 | 34.20 | 34.37 | 34.56 |
| Current at Pmax         | $I_{mpp}$                      | A | 13.27 | 13.36 | 13.45 | 13.53 | 13.60 |
| Open-circuit voltage    | $V_{oc}$                       | V | 41.18 | 41.33 | 41.48 | 41.63 | 41.78 |
| Short-circuit current   | $I_{sc}$                       | A | 13.85 | 13.93 | 14.01 | 14.09 | 14.17 |

STC: 1000W/m<sup>2</sup> irradiance, 25°C module temperature, AM1.5g spectrum according to EN 60904-3.  
 Average relative efficiency reduction of 3.3% at 200W/m<sup>2</sup> according to EN 60904-1.  
 Max test power tolerance  $\pm 3\%$

### Electrical parameters at Nominal Operating Cell Temperature (NOCT)

| Module type           | YC xxx PSF 60 M10/2 (xxx=Pmax) |   |       |       |       |       |       |
|-----------------------|--------------------------------|---|-------|-------|-------|-------|-------|
|                       | $P_{max}$                      | W | 335   | 339   | 342   | 346   | 350   |
| Power output          | $P_{max}$                      | W | 335   | 339   | 342   | 346   | 350   |
| Voltage at Pmax       | $V_{mpp}$                      | V | 31.73 | 31.91 | 32.07 | 32.12 | 32.32 |
| Current at Pmax       | $I_{mpp}$                      | A | 10.55 | 10.61 | 10.67 | 10.77 | 10.82 |
| Open-circuit voltage  | $V_{oc}$                       | V | 38.87 | 39.01 | 39.15 | 39.29 | 39.43 |
| Short-circuit current | $I_{sc}$                       | A | 11.19 | 11.25 | 11.32 | 11.38 | 11.44 |

NOCT: open-circuit module operation temperature at 800W/m<sup>2</sup> irradiance, 20°C ambient temperature, 1m/s wind speed.

## THERMAL CHARACTERISTICS

| Parameter                       | Symbol         | Unit | Value  |
|---------------------------------|----------------|------|--------|
| Temperature coefficient of Pmax | $\gamma$       | %/°C | -0.350 |
| Temperature coefficient of Voc  | $\beta_{Voc}$  | %/°C | -0.270 |
| Temperature coefficient of Isc  | $\alpha_{Isc}$ | %/°C | +0.045 |

## OTHER INFORMATIONS

|                  |   |
|------------------|---|
| Cell Orientation | 120 (20×6)  |
| J-Box            | IP68, three diodes  |
| Cable            | 4mm <sup>2</sup> , positive 300mm/negative 300mm,length can be customized |
| Glass            | 3.2mm tempered glass  |
| Frame            | Anodized aluminum alloy   |
| Weight           | 24.2kg  |
| Dimensions       | 1920×1110×30mm  |
| Packaging        | 36 modules per pallet/24 pallets per 40HQ                                 |

## OPERATING CONDITIONS

|                                    |                     |
|------------------------------------|---------------------|
| Operating temperature range        | -40°C to 85°C       |
| Power tolerance                    | 0 ~ +5W             |
| Voc & Isc tolerance                | $\pm 3\%$           |
| Max. system voltage                | 1500V <sub>DC</sub> |
| Max. series fuse rating            | 25A                 |
| Nominal operating cell temperature | 45 $\pm 2$ °C       |
| Protection Class                   | Class II            |

DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection

## MECHANICAL LOADING

|   |            |
|---|------------|
| Max. static load, front (e.g., snow)        | 5400Pa     |
| Max. static load, back (e.g., wind)         | 2400Pa     |
| Max. hailstone impact (diameter / velocity) | 25mm/23m/s |



Warning: Read the Installation and User Manual in its entirety before handling, installing and operating YC Solar modules.