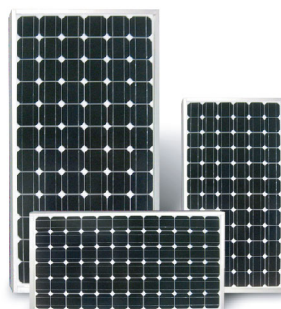


# CSUN195-72M

## Revolutionary Product —Selective Emitter™ Solar Module

Same module size,  
Same exposure time,  
More power output!



Made of CSUN SE high efficiency solar cells\*, CSUN SE modules can deliver you 10% higher efficiency\*\*. Especially, you could benefit **MORE** from the excellent performance under the low light condition and low hot spot effect, and get **LESS** degradation under light exposure.

**MORE - LESS =?** You know how to choose!

## Features

- High conversion efficiency;
- Low power tolerance of  $\pm 3\%$ ;
- Excellent performance under low lighting conditions;
- Low hot spot effect, due to low reverse current density;
- Low degradation under light exposure;
- Low cell performance mismatch during encapsulation, our SE module demonstrates high power output, which is very close to the power generated by the whole cells before encapsulation;
- Passing mechanical load test of 5400Pa according to IEC 61215 (advanced test);
- Tested to withstand hail with maximum diameter of 25mm and impact speed of 23m/s;
- Blacksheet is also available.

## Quality and Certificates

- 5-year hardware warranty;
- 25-year power output warranty\*\*\*.
- Certifications:

| Certification Authority | Test Standard            | Power Range |
|-------------------------|--------------------------|-------------|
| TÜV Rheinland           | IEC61215                 | 40W-200W    |
| ASU-PTL                 | IEC61215                 | 155W-185W   |
| VDE                     | IEC61215<br>IEC61730-1/2 | 155W-180W   |
| CSA                     | UL1703                   | 155W-190W   |



\* Average efficiency of 17.5%, up to 18%.

\*\* Compared to modules with the same size, made of normal P-type solar cells, average efficiency of which is 16%.

\*\*\* 10 years at 90% of the minimal rated power output, 25 years at 80% of the minimal rated power output.

## Specifications

| Type                             | 205-72M   | 200-72M | 195-72M | 190-72M | 185-72M |
|----------------------------------|---|---------|---------|---------|---------|
| Peak Power (Pmpp)                | 205   | 200     | 195     | 190     | 185     |
| Open Circuit Voltage (Voc)       | 45.6  | 45.3    | 45.1    | 45.0    | 44.8    |
| Short Circuit Current (Isc)      | 5.82  | 5.72    | 5.63    | 5.56    | 5.48    |
| Optimum operating Voltage (Vmpp) | 38.0  | 37.6    | 37.0    | 36.5    | 35.8    |
| Optimum operating Current (Impp) | 5.40  | 5.32    | 5.28    | 5.21    | 5.17    |
| Module efficiency                | 16.06%  | 15.67%  | 15.27%  | 14.88%  | 14.49%  |
| Maximum system voltage [V]       | 1000(IEC)/600(UL)   |         |         |         |         |
| Voltage temperature coefficient  | -0.307%/K   |         |         |         |         |
| Current temperature coefficient  | +0.039%/K   |         |         |         |         |
| Power temperature coefficient    | -0.423%/K   |         |         |         |         |
| Series fuse rating[A]            | 10  |         |         |         |         |
| Cells                            | 6×12 pieces monocrystalline solar cells series strings<br>125mm×125mm (5inch) |         |         |         |         |
| Junction box                     | with 3 bypass diodes  |         |         |         |         |
| Cable                            | length 900 mm (35.4inch), 1×4 mm <sup>2</sup> (0.16inch <sup>2</sup> )        |         |         |         |         |
| Front glass                      | white toughened safety glass, 3.2 mm (1/8inch)                                |         |         |         |         |
| Cell encapsulation               | EVA (Ethylene-Vinyl-Acetate)  |         |         |         |         |
| Back sheet                       | composite film  |         |         |         |         |
| Frame                            | anodised aluminium profile  |         |         |         |         |
| Dimensions                       | <sup>a</sup> 1580×808×35mm (L×W×H) [62.2×31.81×1.38inch]                      |         |         |         |         |
|                                  | <sup>b</sup> 1580×808×50mm (L×W×H) [62.2×31.81×1.97inch]                      |         |         |         |         |
| Weight                           | <sup>a</sup> 15.6kg (34.4lbs) <sup>b</sup> 16kg (35.3lbs)                     |         |         |         |         |

The electrical data relates to standard test conditions [STC]: 1,000 W/m<sup>2</sup>; AM 1.5; 25°C.

Performance deviation of Pmpp: ± 3%; Performance deviation of Voc, Isc, Vmp and Imp: ± 10%.

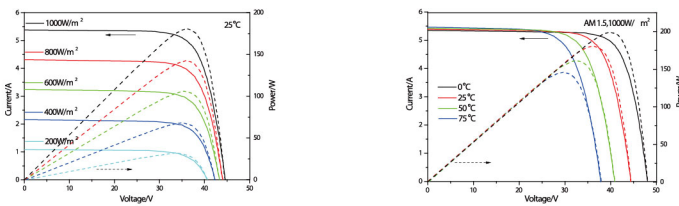
Certified in accordance with IEC 61215, IEC 61730-1/2.

## Operating Condition & Packaging

|                               |  |
|-------------------------------|--|
| Maximum surface load capacity | tested up to 2,400 Pa according to IEC 61215 <sup>a</sup><br>tested up to 5,400 Pa according to IEC 61215 (advanced test) <sup>b</sup> |
| Hail                          | maximum diameter of 25 mm with impact speed of 23 m/s (51.2mph)  |
| Temperature range             | - 40 °C to + 85 °C   |

| Dimensions(L×W×H) | Container 20' | Container 40' | Container 40HC' |
|-------------------|---------------|---------------|-----------------|
| 1580×808×35mm     | 360           | 840           | 952             |
| 1580×808×50mm     | 258           | 602           | 686             |

## IV-Curves



## Dimensions

