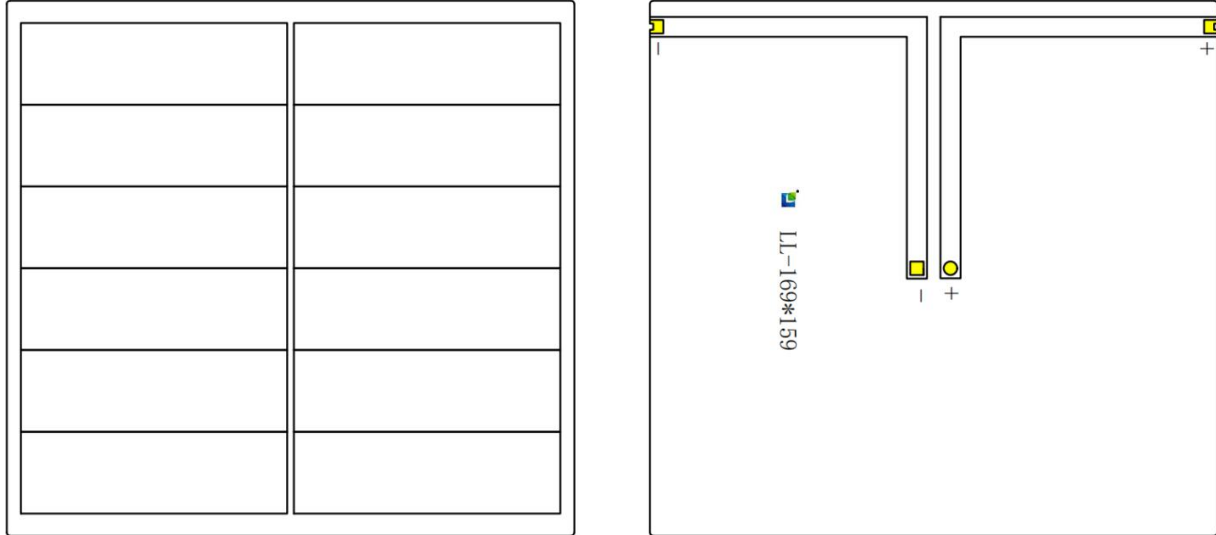


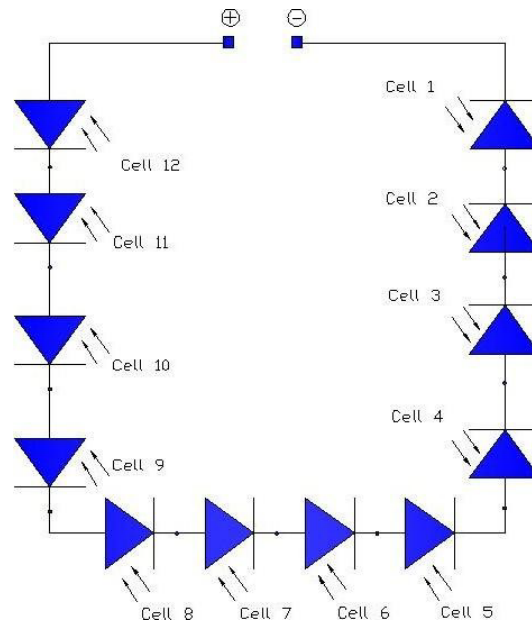
### 1. Appearance of solar panels



Front and back appearance of the bare solar panel (as shown in the figure).

### 2. Working mode of solar panel

Solar panel working mode: 12 pieces in series. Working principle of solar panel (as shown in the following figure):



### 3. Solar panel electrical parameters

Minimum output power (@STC)	5 W	±5%
The open circuit voltage (@STC)	7.2 V	±5%

Standard operating voltage (@STC)	6.0 V	±5%
Standard operating current (@STC)	830 mA	±5%
Short circuit current (@STC)	900 mA	±5%
Cell conversion efficiency (%)	≥20%	

#### 4. Electrical performance parameters of finished product with stable pressure plate

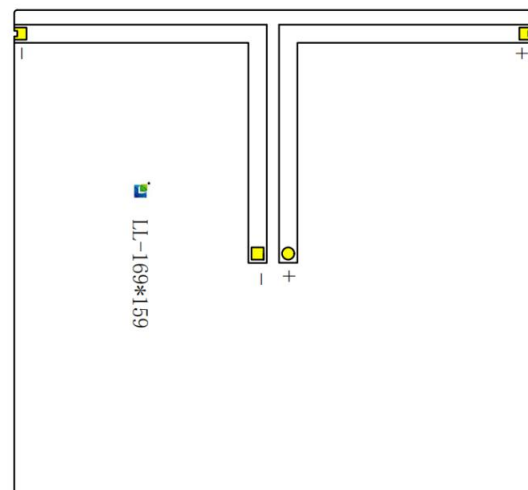
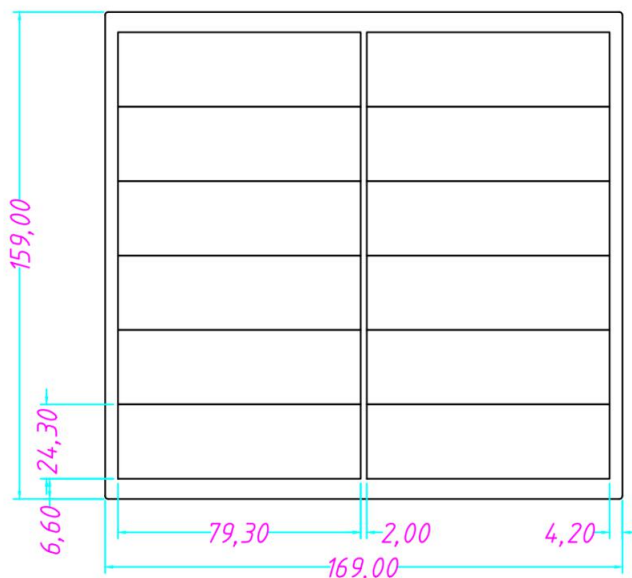
The output power (@STC)	≥4.6W
Standard operating voltage (@STC)	≥4.5V
Standard operating current (@STC)	≥1.02A

Note: STC = standard test conditions → AM1.5, 25°C, 1000W/m<sup>2</sup>, SMQ + 12%

#### 5. Dimensions of bare solar panels (cutting process: machine cutting)

Length of solar panel	169 ± 0.25 mm
Width of solar panel	159 ± 0.25 mm
Solar panel thickness	2.50 ± 0.3 mm
Solar panel deformation	≤1 mm

#### 6. Dimensions & Specifications



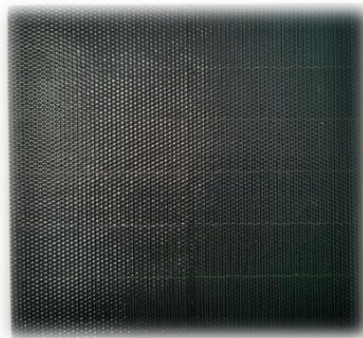
## 7. Solar panel composition & material thickness

Solar panel composition materials	PCB board, welding tape, solar cell, EVA, black tape, rubber shell, wire
PCB	1.2 mm glass fiber
Welding with	1.6 x 0.12 mm
Solar cell sheet	0.18 mm thick, 158 single imbricated solar cells
EVA	0.45 mm, 0.45 mm
ETFE	0.02 mm
Black tape	4.0 x 185 mm
Plastic shell	173.8 x 163.8 x 14.7 mm
Wire	MicroUSB, exposed part length $\geq 2.9$ m, PVC material, wire diameter (13/0.15BC) *2C

## 8. Packaging mode & surface effect

8.1 Package mode: glass fiber bottom plate + EVA + ETFE laminate package

8.2 Solar panel surface effect: smooth ETFE (as shown in the following picture):



8.3 The control board is filled with silica gel to ensure waterproofing (as shown in the following picture):



## **9. Standard method & operating environment for testing the electrical properties of solar cells**

9.1 After the solar panel is laminated, it is mainly tested for its working power.

9.2 Solar radiation intensity: 1000W/m<sup>2</sup> or customer sample

9.3 Temperature: 25 °C

9.4 Humidity: 10 ~ 90 %

9.5 Atmospheric quality: AM 1.5

9.6 Load tester indicates the power of a bare board load test.

## **10. Working power test**

10.1 Emphasize the light until the customer signs the sample for dimming.

10.2 Use electronic load meter with stable pressure plate and line test, output power  $\geq 4.6W$  is qualified.

10.3 The light intensity is corrected every 2 hours.

## **11. Environmental conditions for use & storage**

11.1 Storage condition: normal temperature, humidity not more than 60%.

11.2 Use in open outdoor environment under sunlight

11.3 Operating temperature: -20°C to 60°C

11.4 Temperature of soldering iron: 360±10°C

11.5 Spot welding time shall not exceed 3 seconds, and the interval of multiple spot welding shall not be less than 30 seconds.

11.6 Dustproof and waterproof grade of solar panels: IP65