

# P型双面单晶电池片 Monocrystalline Bifacial PERC Cell

## P-PERC-210-12BB

### 产品特性

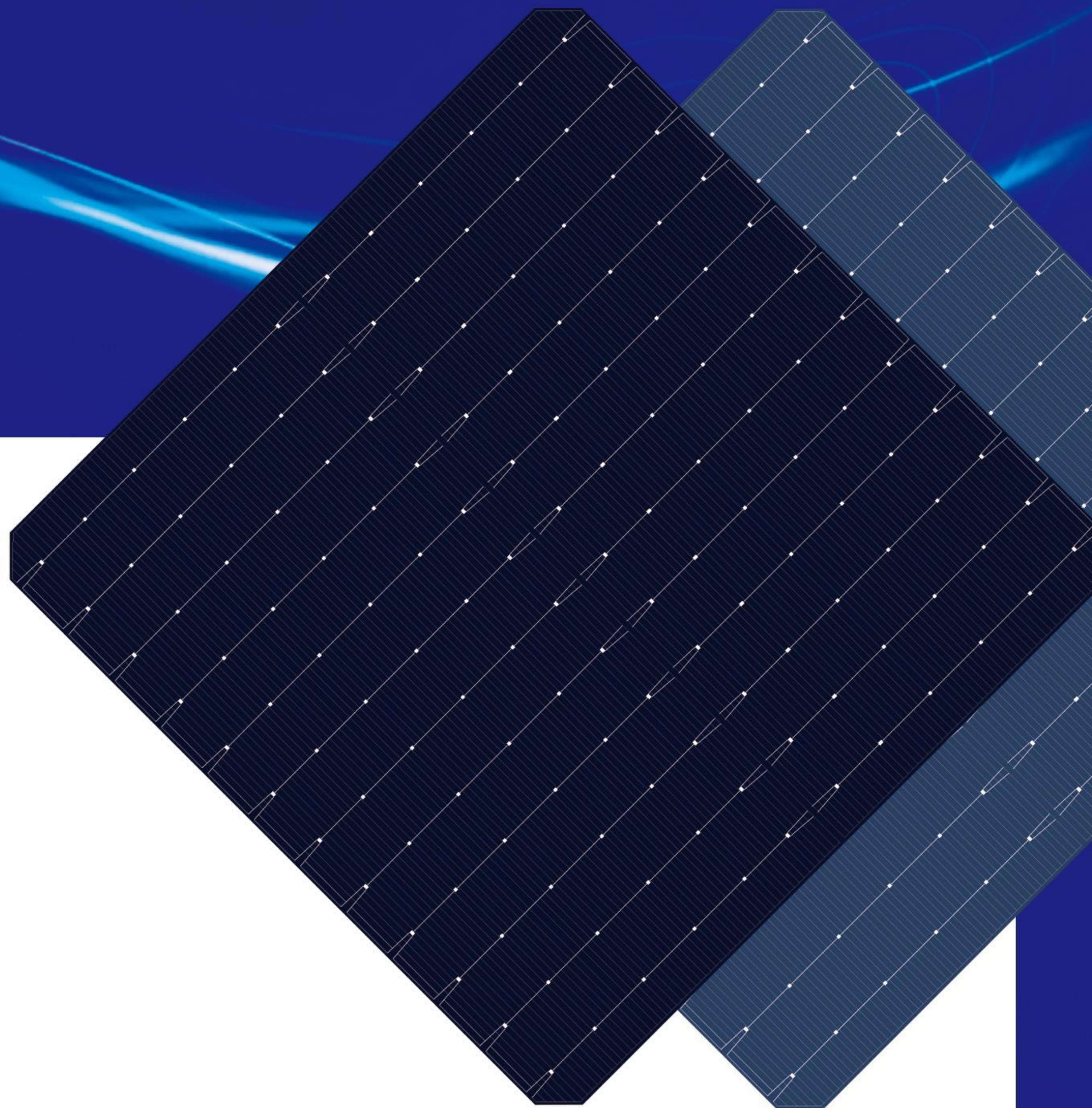
#### Product Characteristics

- 高转化效率，高可靠性  
High conversion efficiency with high reliability
- 无光致衰减  
No light-induced degradation
- 工艺稳定，电性能均匀  
Stable manufacturing process, uniform electrical performance
- 双面发电特性  
Both sides can generate electricity
- 组件封装过程中电池的电性能失配度低  
Low mismatch of cell performance during encapsulation
- 弱光条件下优异的发电特性  
Excellent power generation performance under low irradiation
- 较弱的热斑效应  
Low hot spot effect

### 品质管控

#### Quality Control

- 严格的来料，出库，包装检测  
Strict incoming, outgoing, and packaging inspections
- 效率测试的准确性控制在 $\pm 0.1\%$   
Efficiency tested within  $\pm 0.1\%$  accuracy
- 反向漏电和电池外观100%全检  
Checked for reverse current and visual appearance
- 校准片溯源到弗劳恩霍夫  
Reference cell calibrated from Fraunhofer



### 产品特征

#### Product Features

##### 尺寸规格 Dimension:

210mm\*210mm $\pm 0.25$ mm

##### 电池厚度 Cell Thickness:

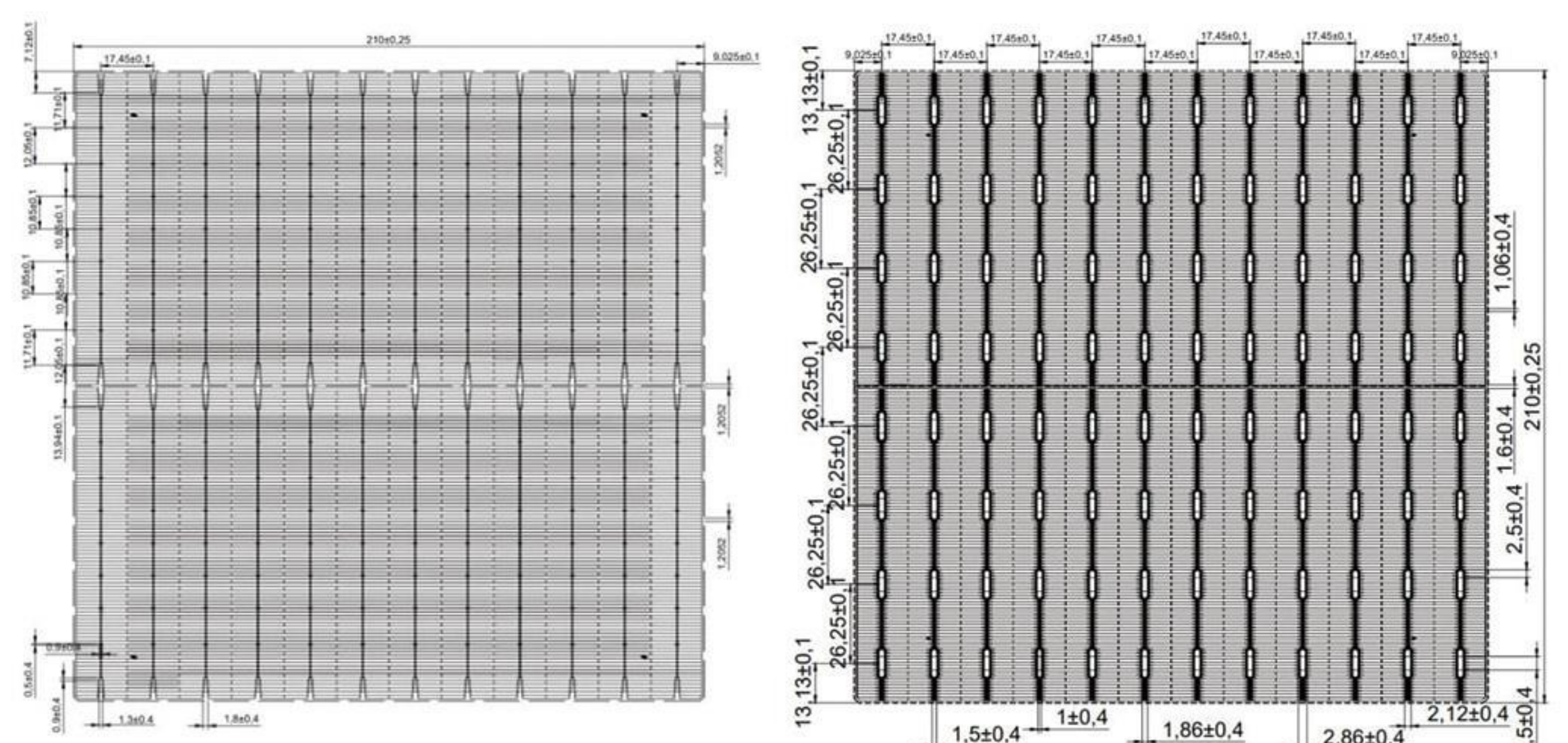
180 $\pm 20$  $\mu$ m

##### 正面 (+) Front side:

主栅线Bus bars: 12\*0.06 $\pm 0.04$ mm 副栅线Finger: 174 $\pm 15$   
蓝色抗反射膜 Blue silicon nitride antireflection coating

##### 背面 (-) Back side:

背电极宽度Back electrode width: 2.12 $\pm 0.4$ mm





# P-PERC-210-12BB

## 电性能特征 Electric Performance

| Eff(%) | Pmpp(W) | Vmpp(V) | Ippp(A) | Uoc(V) | Isc(A) | FF(%) |
|--------|---------|---------|---------|--------|--------|-------|
| 23.1   | 10.18   | 0.590   | 17.261  | 0.690  | 18.186 | 81.15 |
| 23.0   | 10.14   | 0.589   | 17.216  | 0.689  | 18.166 | 81.01 |
| 22.9   | 10.10   | 0.587   | 17.206  | 0.688  | 18.140 | 80.93 |
| 22.8   | 10.05   | 0.586   | 17.151  | 0.687  | 18.125 | 80.71 |
| 22.7   | 10.01   | 0.584   | 17.140  | 0.686  | 18.108 | 80.58 |
| 22.6   | 9.97    | 0.583   | 17.101  | 0.685  | 18.088 | 80.46 |
| 22.5   | 9.92    | 0.581   | 17.074  | 0.685  | 18.062 | 80.18 |
| 22.4   | 9.88    | 0.579   | 17.064  | 0.684  | 18.049 | 80.02 |
| 22.3   | 9.83    | 0.577   | 17.036  | 0.682  | 18.030 | 79.94 |
| 22.2   | 9.79    | 0.575   | 17.026  | 0.681  | 18.016 | 79.79 |
| 22.1   | 9.75    | 0.574   | 16.986  | 0.680  | 17.995 | 79.68 |

● 标准测试条件下(Under standard test condition): 1000W/ m², AM 1.5G, 25°C

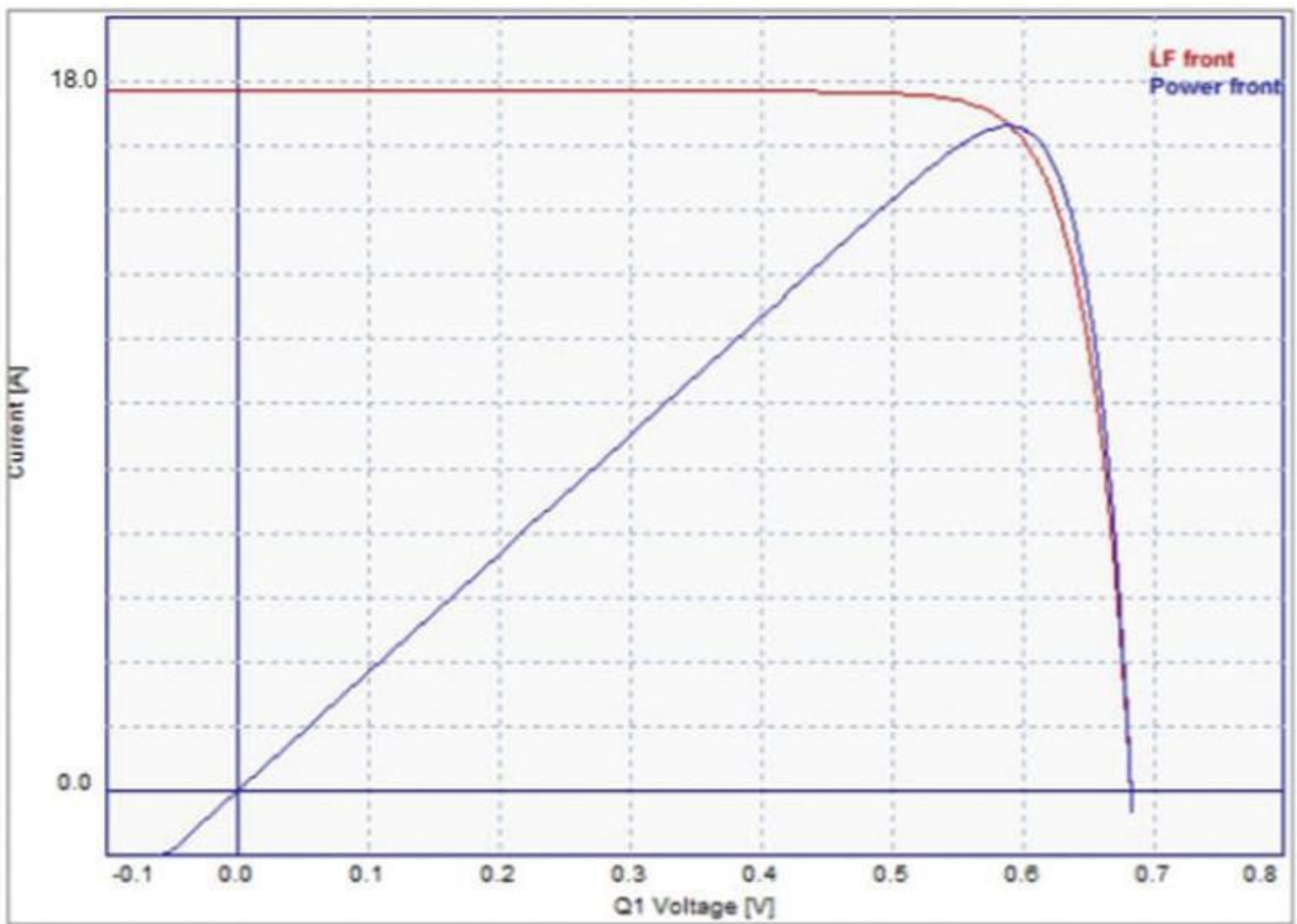
## 温度系数 Temperature Coefficients

|                                        |                      |
|----------------------------------------|----------------------|
| 电流温度系数 Current Temperature Coefficient | TkCurrent: +0.07 %/K |
| 电压温度系数 Voltage Temperature Coefficient | TkVoltage: -0.36 %/K |
| 功率温度系数 Voltage Temperature Coefficient | TkPower: -0.38 %/K   |

## 光强可靠性 Light intensity reliability

| Intensity(W/m²) | Uoc   | Isc   |
|-----------------|-------|-------|
| 1000            | 1.000 | 1.000 |
| 900             | 0.996 | 0.903 |
| 800             | 0.991 | 0.803 |
| 600             | 0.988 | 0.602 |
| 400             | 0.962 | 0.403 |

## IV曲线 IV Curve



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