TWMPF-60HS590-610W
P-type Half-cell Monofacial Module (60)

PRODUCT FEATURES

- High Power Output
- Low LCOE
- Maximum Power 610W+
- High Reliability
- Low LID

POWER WARRANTY

1st year <2%, 0.55% power degradation per year from 2 to 25 years

12-year Warranty for Materials
25-year Warranty for Linear Power Output

MANAGEMENT SYSTEM AND PRODUCT CERTIFICATION

ISO9001: 2015/Quality Management System
ISO14001: 2015/Environment Management System

Front

Rear
**Electrical Characteristics (STC)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>590</th>
<th>595</th>
<th>600</th>
<th>605</th>
<th>610</th>
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<tr>
<td>Maximum Power: Pmax [W]</td>
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<td>450.2</td>
<td>454.0</td>
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<td>461.5</td>
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<tr>
<td>Open Circuit Voltage: Voc [V]</td>
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<tr>
<td>Module Efficiency: η [%]</td>
<td>20.8</td>
<td>21.0</td>
<td>21.2</td>
<td>21.4</td>
<td>21.6</td>
</tr>
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STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass 1.5, Measuring Tolerance ±3%

**Electrical Characteristics (NMOT)**

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NMOT: Irradiance 800W/m², Ambient Temperature 20°C, Air Mass 1.5, Wind Speed 1m/s

**Mechanical Parameters**

- **Cells**: TPC
- **Cell Orientation**: 120° (AX20)
- **Dimension**: 2172×2×1322×2×235mm
- **Weight**: 31kg
- **Front Glass**: 3.2mm high transmittance, AR coated tempered glass
- **Backsheet**: White
- **Frame**: Anodized aluminum alloy frame
- **Junction Box**: IP68, 3 diodes
- **Output Cable**: 4.0mm²
- **Cable Length**: ±400mm, ±200mm, length can be customized
- **Wind/Snow Load**: 2400Pa/6400Pa
- **Packaging**: 31pcs per pallet, 558pcs per 40HC

**Operating Parameters**

- **Operational Temperature**: -40°C~+85°C
- **Maximum System Voltage**: 1500V DC
- **Maximum Series Fuse Rating**: 30A
- **Power Output Tolerance**: 0~±5W

**Temperature Ratings**

- **Temperature Coefficient (Pmax)**: -0.34%/°C
- **Temperature Coefficient (Voc)**: -0.27%/°C
- **Temperature Coefficient (Isc)**: +0.04%/°C
- **NMOT**: 45±7°C

**Drawings (Unit: mm)**