TWMPD-78HD580-600W
P-type Half-cell Bifacial Module (78)

PRODUCT FEATURES

- High Power Output
- Low LCOE
- Maximum Power 600W+
- High Reliability
- Low LID

POWER WARRANTY

1st year <2%, 0.45% power degradation per year from 2 to 30 years

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

MANAGEMENT SYSTEM AND PRODUCT CERTIFICATION

ISO9001: 2015/Quality Management System
ISO14001: 2015/Environment Management System
### Electrical Characteristics (STC)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value 580</th>
<th>Value 585</th>
<th>Value 590</th>
<th>Value 595</th>
<th>Value 600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Power: Pmax [W]</td>
<td>438.9</td>
<td>442.7</td>
<td>446.5</td>
<td>450.3</td>
<td>454.1</td>
</tr>
<tr>
<td>Open Circuit Voltage: Voc [V]</td>
<td>53.45</td>
<td>53.65</td>
<td>53.85</td>
<td>54.05</td>
<td>54.25</td>
</tr>
<tr>
<td>Voltage at Maximum Power: Vmp [V]</td>
<td>44.0</td>
<td>44.2</td>
<td>44.4</td>
<td>44.6</td>
<td>44.8</td>
</tr>
<tr>
<td>Module Efficiency: η [%]</td>
<td>20.7</td>
<td>20.9</td>
<td>21.1</td>
<td>21.3</td>
<td>21.5</td>
</tr>
</tbody>
</table>

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass 1.5, Measuring Tolerance ±3%

### Temperature Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Coefficient (Pmax)</td>
<td>-0.34%/°C</td>
</tr>
<tr>
<td>Temperature Coefficient (Voc)</td>
<td>-0.28%/°C</td>
</tr>
<tr>
<td>Temperature Coefficient (Isc)</td>
<td>0.05%/°C</td>
</tr>
<tr>
<td>Nameplate (NMOT)</td>
<td>45±2°C</td>
</tr>
</tbody>
</table>

### Mechanical Parameters

- **Cells**: 1PC
- **Cell Orientation**: 156(X76)
- **Dimension**: 2465x1213x42x35mm
- **Weight**: 34.6kg
- **Front Glass**: 2.0mm high transmittance, AR coated tempered glass
- **Rear Glass**: 2.0mm high transmittance, coated tempered glass
- **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/5600Pa
- **Packaging**: 31pcs per pallet, 496pcs per 40′HC

### Drawings (Unit: mm)

With technological progress and product updates, there may be deviations between the technical parameters of Tongwei’s module products and the technical parameters contained in this specification, and Tongwei Solar has the right to adjust the technical parameters at any time without notifying the customer; the final interpretation of the technical specification is vested in Tongwei Solar.