295 Watt
MONOCRYSTALLINE SOLAR MODULE

Features

- **High module conversion efficiency**: Module efficiency up to 18.0% achieved through advanced cell technology and manufacturing capabilities.
- **Positive tolerance**: Positive tolerance of up to 0/+5W delivers higher outputs reliability.
- **Extended wind and snow load tests**: Module certified to withstand extreme wind (3800 Pascal) and snow loads (5400 Pascal).
- **PID resistant**: Advanced cell technology and qualified materials lead to high resistance to PID.
- **Suntech current sorting process**: System output maximized by reducing mismatch losses up to 2% with modules sorted & packaged by amperage.
- **Withstanding harsh environment**: Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline.

Trust Suntech to Deliver Reliable Performance Over Time

- World-class manufacturer of crystalline silicon photovoltaic modules
- Unrivaled manufacturing capacity and world-class technology
- Regular independently checked production process from international accredited institute/company
- Tested for harsh environments (salt mist, ammonia corrosion and sand blowing testing: IEC 61701, IEC 62716, DIN EN 60068-2-68)
- Long-term reliability tests
- 2 x 100% EL inspection ensuring defect-free modules

Industry-leading Warranty based on nominal power

- 97.5% in the first year, thereafter, for years two (2) through twenty-five (25), 0.7% maximum decrease from MODULE’s nominal power output per year, ending with the 80.7% in the 25th year after the defined WARRANTY STARTING DATE.
- 12-year product warranty
- 25-year linear performance warranty

Advanced HyPro Technology

The HyPro cell uses back surface passivation and local BSF technology, which can improve cell efficiency by a large margin.

IP68 Rated Junction Box

The Suntech IP68 rated junction box ensures an outstanding waterproof level, supports installations in all orientations and reduces stress on the cables. High reliable performance, low resistance connectors ensure maximum output for the highest energy production.

Certifications and standards:
IEC 61215, IEC 61730, conformity to CE
HyPro  
STP295S - 20/Wfb  
STP290S - 20/Wfb  
STP285S - 20/Wfb

**Mechanical Characteristics**

- **Solar Cell**: Monocrystalline silicon 6 inches
- **No. of Cells**: 60 (6 x 10)
- **Dimensions**: 1650 x 992 x 35mm (64.96 x 39.1 x 1.4 inches)
- **Weight**: 18.3 kgs (40.3 lbs.)
- **Front Glass**: 3.2 mm (0.13 inches) tempered glass
- **Frame**: Anodized aluminum alloy
- **Junction Box**: IP68 rated (3 bypass diodes)
- **Output Cables**: TUV (2Pfg1169:2007)

\[4.0 \text{ mm}^2 (0.006 \text{ inches}^2), \text{ symmetrical lengths} (-) 1000\text{mm (39.4 inches)} \text{ and} (+) 1000 \text{ mm (39.4 inches)}\]

- **Connectors**: MC4 compatible

**Packaging Configuration**

<table>
<thead>
<tr>
<th>Container</th>
<th>20’ GP</th>
<th>40’ HC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pieces per pallet</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Pallets per container</td>
<td>6</td>
<td>28</td>
</tr>
<tr>
<td>Pieces per container</td>
<td>180</td>
<td>840</td>
</tr>
</tbody>
</table>

**Temperature Characteristics**

- **Nominal Operating Cell Temperature (NOCT)**: 45±2°C
- **Temperature Coefficient of Pmax**: -0.40 %/°C
- **Temperature Coefficient of Voc**: -0.34 %/°C
- **Temperature Coefficient of Isc**: 0.060 %/°C

**Electrical Characteristics**

<table>
<thead>
<tr>
<th>STC</th>
<th>STP295S-20/Wfb</th>
<th>STP290S-20/Wfb</th>
<th>STP285S-20/Wfb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Power at STC (Pmax)</td>
<td>295 W</td>
<td>290 W</td>
<td>285 W</td>
</tr>
<tr>
<td>Optimum Operating Voltage (Vmp)</td>
<td>31.8 V</td>
<td>31.7 V</td>
<td>31.6 V</td>
</tr>
<tr>
<td>Optimum Operating Current (Imp)</td>
<td>9.62 A</td>
<td>9.55 A</td>
<td>9.48 A</td>
</tr>
<tr>
<td>Open Circuit Voltage (Voc)</td>
<td>40.0 V</td>
<td>39.8 V</td>
<td>39.6 V</td>
</tr>
<tr>
<td>Short Circuit Current (Isc)</td>
<td>9.62 A</td>
<td>9.55 A</td>
<td>9.48 A</td>
</tr>
<tr>
<td>Module Efficiency</td>
<td>18.0%</td>
<td>17.7%</td>
<td>17.4%</td>
</tr>
<tr>
<td>Operating Module Temperature</td>
<td>-40 °C to +85 °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum System Voltage</td>
<td>1000 V DC (IEC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Tolerance</td>
<td>0/+5 W</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Current-Voltage & Power-Voltage Curve (295S-20)**

**Stc: irradiance 1000 W/m², module temperature 25 °C, AM=1.5;**
**Best in Class AAA solar simulator (IEC 60904-9) used, power measurement uncertainty is within +/- 3%**

**Temperature Characteristics**

- **Nominal Operating Cell Temperature (NOCT)**: 45±2°C
- **Temperature Coefficient of Pmax**: -0.40 %/°C
- **Temperature Coefficient of Voc**: -0.34 %/°C
- **Temperature Coefficient of Isc**: 0.060 %/°C

**Electrical Characteristics**

<table>
<thead>
<tr>
<th>NOCT</th>
<th>STP295S-20/Wfb</th>
<th>STP290S-20/Wfb</th>
<th>STP285S-20/Wfb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Power at NOCT (Pmax)</td>
<td>216.9 W</td>
<td>214.7 W</td>
<td>210 W</td>
</tr>
<tr>
<td>Optimum Operating Voltage (Vmp)</td>
<td>29.7 V</td>
<td>29.6 V</td>
<td>28.9 V</td>
</tr>
<tr>
<td>Optimum Operating Current (Imp)</td>
<td>7.31 A</td>
<td>7.25 A</td>
<td>7.27 A</td>
</tr>
<tr>
<td>Open Circuit Voltage (Voc)</td>
<td>36.5 V</td>
<td>36.7 V</td>
<td>36.4 V</td>
</tr>
<tr>
<td>Short Circuit Current (Isc)</td>
<td>7.79 A</td>
<td>7.73 A</td>
<td>7.67 A</td>
</tr>
</tbody>
</table>

**Stc: irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s;**
**Best in Class AAA solar simulator (IEC 60904-9) used, power measurement uncertainty is within +/- 3%**