SOMERA P-DUPLEX
72 FRAMELESS, P-TYPE BIFACIAL MODULE

UP TO 20% POWER GAIN from ground facing side

UP TO 30 YEARS linear power warranty

NEAR ZERO PID due to HIGHLY RESISTIVE ENCAPSULANT & frame-less design

MAXIMUM SYSTEM VOLTAGE INCREASED TO 1500VDC (IEC & UL), increased string length, low BOS cost

QUALITY AND SAFETY
- 30 years of linear power output warranty **
- Rigorous quality control meeting the highest international standards
- 100% EL tested to minimise micro crack
- Certified for salt mist corrosion resistance – severity VI
- Excellent anti-PID performance

APPLICATIONS
- Utility scale applications
- Greenhouse applications
- Agricultural industry applications
- Sound barrier by Vertical Installation
THE DATASHEET IS APPLICABLE FOR: SOMERA VSMD.72.AAA.05 (AAA=375-400)

**TECHNICAL DATA**

**SOMERA P-DUPLEX**

**72 FRAMELESS, P-TYPE BIFACIAL MODULE**

**Electrical Data [Front Side]¹,²**

<table>
<thead>
<tr>
<th>Peak Power-Pmax (Wp)</th>
<th>375</th>
<th>380</th>
<th>385</th>
<th>390</th>
<th>395</th>
<th>400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Voltage Vmpp (V)</td>
<td>40.2</td>
<td>40.4</td>
<td>40.5</td>
<td>40.7</td>
<td>40.9</td>
<td>41.1</td>
</tr>
<tr>
<td>Maximum Current Impp (A)</td>
<td>9.33</td>
<td>9.41</td>
<td>9.51</td>
<td>9.59</td>
<td>9.66</td>
<td>9.74</td>
</tr>
<tr>
<td>Open Circuit Voltage Voc (V)</td>
<td>48.4</td>
<td>48.6</td>
<td>48.8</td>
<td>49.0</td>
<td>49.2</td>
<td>49.4</td>
</tr>
<tr>
<td>Short Circuit Current Isc (A)</td>
<td>9.92</td>
<td>10.03</td>
<td>10.11</td>
<td>10.19</td>
<td>10.28</td>
<td>10.36</td>
</tr>
<tr>
<td>Module Efficiency η(%)</td>
<td>18.67</td>
<td>18.91</td>
<td>19.16</td>
<td>19.41</td>
<td>19.66</td>
<td>19.91</td>
</tr>
</tbody>
</table>

¹) STC: 1000 W/m² irradiance, 25°C Cell Temperature, AM1.5g spectrum | ²) Power measurement uncertainty is within +/- 3%

**Bifacial Gain**

- 5%: 394, 399, 404, 410, 415, 420
- 10%: 413, 418, 424, 429, 435, 440
- 15%: 431, 437, 443, 449, 454, 460
- 20%: 450, 456, 462, 468, 474, 480

**Electrical Parameters at NOCT³**

- Power (W): 263.4, 266.9, 270.4, 273.9, 277.5, 281
- Isc (A): 7.77, 7.85, 7.92, 7.98, 8.05, 8.11
- Voc (V): 43.1, 43.3, 43.4, 43.6, 43.8, 44.0
- I@Pmax (A): 7.35, 7.41, 7.49, 7.57, 7.61, 7.66
- V@Pmax (V): 35.8, 36.0, 36.1, 36.2, 36.5, 36.7

³) NOCT irradiance 800 W/m², ambient temperature 20°C, wind speed 1 m/sec

**Temperature Coefficients (Tc) and permissible operating conditions**

- Tc of Open Circuit Voltage (β) -0.27%/°C
- Tc of Short Circuit Current (α) 0.065%/°C
- Tc of Power (γ) -0.35%/°C
- Maximum System Voltage: 1500 V (IEC & UL)
- NOCT: 44°C ± 2°C
- Temperature Range: -40°C to + 85°C

**Mechanical Data**

- Length × Width × Height: 2005 × 1002 × 6 mm (78.94 × 39.45 × 0.23 inches)
- Weight: 27.7 kg (61.1 lbs)
- Junction Box: IP68/IP67, Split Junction Box with individual bypass diodes
- Cable & Connectors: 400 mm (15.74 inches) length cables, MC4/MC4 Compatible Connectors
- Application Class: Class A (Safety class II)
- Superstrate: 2.5 mm (0.098 inches) high transmission, AR coated
- Cells: 72 Mono PERC P-type bifacial solar cells
- Substrate: 2.5 mm (0.098 inches) high transmission float glass
- Cell Encapsulant: Polyolefin (POE)
- Mechanical Load Test: 2400 Pa (Snow load), 2400 Pa (Wind load)
- Maximum Series Fuse Rating: 20A

**Warranty**

- Product Warranty**: 10 years
- Performance Warranty**: Linear Power Warranty for 30 years with 3% for 1st year degradation and 0.50% from year 2 to year 30

* All Tc certifications under progress. ** Refer to Vikram Solar’s warranty document for terms and conditions. | * Refer to Vikram Solar’s warranty document for terms and conditions. ¹ 1200mm (47.24 inches) cable length is also available

**Packaging Information**

- Quantity/Pallet: 30
- Pallets/Container (40’HC): 20
- Quantity/Container (40’HC): 600

**Typical IV Curve⁴**

⁴) Average relative efficiency reduction of 5% at 200 W/m² according to EN 60904-1.