Engineered for Performance

- Smaller cells stay cooler when shaded, extending panel life³
- An advanced encapsulant minimizes degradation from environmental exposure
- Conductive adhesive defends against daily temperature swings
- Redundant cell connections create flexible paths for continuous electricity flow

PERFORMANCE 5 | 495–515

POWER RANGE: 495 – 515 W

The Performance 5 panel is engineered to meet the unique needs of solar power plants. Bifacial power generation and G12 (210mm) cell technology combine to maximise power density, while its framed glass/glass construction offers greater durability for extended panel life.

Backed by a comprehensive warranty and an estimated 35-year useful life,¹ Performance panels wrap conventional front contact cells with 35 years of materials, engineering and manufacturing expertise to mitigate the reliability challenges of Conventional Panel design.

Durability that Translates to More Energy

Engineered to stand up to environmental stresses such as shading, daily temperature swings and high humidity, the Performance 5 is a high power panel uniquely suited for power plant EPCs and developers looking to maximize energy production.

A Track Record of Innovation Leadership

Performance panels represent the most deployed shingled cell panel in the industry—innovation protected by a growing portfolio of patents worldwide.²


The Performance 5 panel is backed by a 12-year product and 30-year power warranty.

- Year 1 Minimum Warranted Power Output 98.0%
- Maximum Annual Degradation 0.45%
- Year 30 Warranted Power Output 85.0%

6+ GW Deployed 60+ Countries 90+ Patents
Operating Condition And Mechanical Data

Temperature
-40° F to +185° F (−40° C to +85° C)

Impact Resistance 1 inch (25 mm) diameter hail at 52 mph (23 m/s)

Solar Cells Monocrystalline PERC
Tempered Glass High-transmission tempered anti-reflective

Junction Box IP-68, Zerun Z4S, 3 bypass diodes

Weight 71.4 lbs (32.4 kg)

Max. Load
Wind: 50 psf, 2400 Pa, 244 kg/m² back
Snow: 112 psf, 5400 Pa, 550 kg/m² front

Frame Class 2 silver anodized

35 mm [1.38 in]

1092 mm [43.0 in]

2384 mm [93.9 in]

Tests And Certifications (Pending)

Standard Tests UL 61730, UL 61215


EHS Compliance ISO 45001-2018, Recycling Scheme

Ammonia Test IEC 62716

Desert Test MIL-STD-810G

Salt Spray Test IEC 61701 (maximum severity)

LeTID Test5 IEC 61215 (MQT 23.1 LeTID detection) draft standard

PID Test IEC 62804

Available Listings6 UL

Operating Condition And Mechanical Data

Temperature
−40° F to +185° F (−40° C to +85° C)

Impact Resistance 1 inch (25 mm) diameter hail at 52 mph (23 m/s)

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Junction Box IP-68, Zerun Z4S, 3 bypass diodes

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Max. Load
Wind: 50 psf, 2400 Pa, 244 kg/m² back
Snow: 112 psf, 5400 Pa, 550 kg/m² front

Frame Class 2 silver anodized

Electrical Data, Front STC Characteristics 4

<table>
<thead>
<tr>
<th>Model</th>
<th>SPR-P5-515-UPP</th>
<th>SPR-P5-510-UPP</th>
<th>SPR-P5-505-UPP</th>
<th>SPR-P5-500-UPP</th>
<th>SPR-P5-495-UPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Power (Pnom)4</td>
<td>515 W</td>
<td>510 W</td>
<td>505 W</td>
<td>500 W</td>
<td>495 W</td>
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<tr>
<td>Power Tolerance</td>
<td>+3/0%</td>
<td>+3/0%</td>
<td>+3/0%</td>
<td>+3/0%</td>
<td>+3/0%</td>
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<tr>
<td>Efficiency</td>
<td>19.8%</td>
<td>19.6%</td>
<td>19.4%</td>
<td>19.2%</td>
<td>19.0%</td>
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<tr>
<td>Rated Voltage (Vmp)</td>
<td>37.7 V</td>
<td>37.4 V</td>
<td>37.3 V</td>
<td>37.1 V</td>
<td>36.9 V</td>
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<tr>
<td>Rated Current (Imp)</td>
<td>13.66 A</td>
<td>13.64 A</td>
<td>13.55 A</td>
<td>13.48 A</td>
<td>13.42 A</td>
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<tr>
<td>Open-Circuit Voltage (Voc) (+/−3%)</td>
<td>46.3 V</td>
<td>46.1 V</td>
<td>46.1 V</td>
<td>46.1 V</td>
<td>46.0 V</td>
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<tr>
<td>Short-Circuit Current (Isc) (+/−3%)</td>
<td>14.75 A</td>
<td>14.74 A</td>
<td>14.68 A</td>
<td>14.62 A</td>
<td>14.55 A</td>
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<tr>
<td>Maximum System Voltage</td>
<td>1500 V UL</td>
<td>1500 V UL</td>
<td>1500 V UL</td>
<td>1500 V UL</td>
<td>1500 V UL</td>
</tr>
<tr>
<td>Maximum Series Fuse</td>
<td>25 A</td>
<td>25 A</td>
<td>25 A</td>
<td>25 A</td>
<td>25 A</td>
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<tr>
<td>Power Temp. Coef.</td>
<td>−0.34% / ° C</td>
<td>−0.34% / ° C</td>
<td>−0.34% / ° C</td>
<td>−0.34% / ° C</td>
<td>−0.34% / ° C</td>
</tr>
<tr>
<td>Voltage Temp. Coef.</td>
<td>−0.28% / ° C</td>
<td>−0.28% / ° C</td>
<td>−0.28% / ° C</td>
<td>−0.28% / ° C</td>
<td>−0.28% / ° C</td>
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<td>Current Temp. Coef.</td>
<td>0.06% / ° C</td>
<td>0.06% / ° C</td>
<td>0.06% / ° C</td>
<td>0.06% / ° C</td>
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</table>

Bifacial Characteristics

Bifaciality (pPmax)

<table>
<thead>
<tr>
<th>Model</th>
<th>SPR-P5-515-UPP</th>
<th>SPR-P5-510-UPP</th>
<th>SPR-P5-505-UPP</th>
<th>SPR-P5-500-UPP</th>
<th>SPR-P5-495-UPP</th>
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<tbody>
<tr>
<td>PmaxBiF05</td>
<td>541 W</td>
<td>536 W</td>
<td>530 W</td>
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<tr>
<td>IscBiF05</td>
<td>15.49 A</td>
<td>15.48 A</td>
<td>15.41 A</td>
<td>15.35 A</td>
<td>15.28 A</td>
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<td>PmaxBiF10</td>
<td>567 W</td>
<td>561 W</td>
<td>556 W</td>
<td>550 W</td>
<td>545 W</td>
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<tr>
<td>IscBiF10</td>
<td>16.23 A</td>
<td>16.21 A</td>
<td>16.15 A</td>
<td>16.08 A</td>
<td>16.01 A</td>
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<tr>
<td>PmaxBiF20</td>
<td>618 W</td>
<td>612 W</td>
<td>606 W</td>
<td>600 W</td>
<td>594 W</td>
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<tr>
<td>IscBiF20</td>
<td>17.70 A</td>
<td>17.69 A</td>
<td>17.62 A</td>
<td>17.54 A</td>
<td>17.46 A</td>
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</tbody>
</table>

4 Measured at Standard Test Conditions (STC): irradiance of 1000 W/m², AM 1.5, and cell temperature 25° C.
5 Fraunhofer CSP LeTID Sensitivity according to IEC 61215 (MQT 23.1 LeTID detection), 0.5% power loss at 700 hours.
6 Cert only covers front side performance.

Designed in the U.S.A.
Assembled in Mexico

Specifications included in this datasheet are subject to change without notice.


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