

## C2 Solar Panel

Product: HSM-BD66-GR

**645-670 W** | Up to **24.8 %** efficiency



Ideal for commercial applications



Framed glass-glass



Half-cut back-contact technology



Bifacial energy generation

### High energy yield

Improved power density

Up to 75 % power bifaciality

Low temperature coefficient

### Long term reliability

Built to last with robust frame and heat-strengthened glass

Certified across all weather conditions

Low degradation rate

### A safe investment

Rigorous supply chain qualification procedures

Higher power density reduces LCOE

Backed by a financially strong company

### Comprehensive warranty coverage

Product and power coverage 25-30 Years

Year 1 minimum warranted output 99.0 %

Maximum annual degradation 0.35 %

**S&P Global**



**Electrical Data - Front STC Characteristics<sup>1</sup>**

|                                                           | HSM-BD66-GR670 | HSM-BD66-GR665 | HSM-BD66-GR660 | HSM-BD66-GR655 | HSM-BD66-GR650 | HSM-BD66-GR645 |
|-----------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Nominal Power (P<sub>max</sub>)<sup>2</sup></b>        | 670 W          | 665 W          | 660 W          | 655 W          | 650 W          | 645 W          |
| <b>Power Binning</b>                                      | +3/0 %         | +3/0 %         | +3/0 %         | +3/0 %         | +3/0 %         | +3/0 %         |
| <b>Panel Efficiency</b>                                   | 24.8 %         | 24.6 %         | 24.4 %         | 24.2 %         | 24.1 %         | 23.9 %         |
| <b>Rated Voltage (V<sub>mpp</sub>)</b>                    | 41.59 V        | 41.50 V        | 41.41 V        | 41.32 V        | 41.23 V        | 41.14 V        |
| <b>Rated Current (I<sub>mp</sub>)</b>                     | 16.11 A        | 16.03 A        | 15.94 A        | 15.86 A        | 15.77 A        | 15.68 A        |
| <b>Open-Circuit Voltage (V<sub>oc</sub>)<sup>2</sup></b>  | 50.00 V        | 49.85 V        | 49.70 V        | 49.55 V        | 49.40 V        | 49.25 V        |
| <b>Short-Circuit Current (I<sub>sc</sub>)<sup>2</sup></b> | 16.95 A        | 16.88 A        | 16.80 A        | 16.73 A        | 16.65 A        | 16.57 A        |

**BNPI Data<sup>3</sup>**

|                                               |         |         |         |         |         |         |
|-----------------------------------------------|---------|---------|---------|---------|---------|---------|
| <b>Nominal Power (P<sub>max</sub>)</b>        | 732 W   | 727 W   | 721 W   | 716 W   | 710 W   | 705 W   |
| <b>Open-Circuit Voltage (V<sub>oc</sub>)</b>  | 50.15 V | 49.99 V | 49.83 V | 49.68 V | 49.52 V | 49.39 V |
| <b>Short-Circuit Current (I<sub>sc</sub>)</b> | 18.49 A | 18.40 A | 18.31 A | 18.24 A | 18.14 A | 18.06 A |

**Bifacial Gain<sup>4</sup>**

|                                                |         |         |         |         |         |         |
|------------------------------------------------|---------|---------|---------|---------|---------|---------|
| <b>P<sub>max</sub> with 5 % Bifacial Gain</b>  | 704 W   | 698 W   | 693 W   | 688 W   | 683 W   | 677 W   |
| <b>I<sub>sc</sub> with 5 % Bifacial Gain</b>   | 17.80 A | 17.72 A | 17.64 A | 17.57 A | 17.48 A | 17.40 A |
| <b>P<sub>max</sub> with 10 % Bifacial Gain</b> | 737 W   | 732 W   | 726 W   | 721 W   | 715 W   | 710 W   |
| <b>I<sub>sc</sub> with 10 % Bifacial Gain</b>  | 18.65 A | 18.57 A | 18.48 A | 18.40 A | 18.32 A | 18.23 A |

**Electrical Data**

|                                                       |                                 |
|-------------------------------------------------------|---------------------------------|
| <b>Bifaciality (φP<sub>max</sub>/φI<sub>sc</sub>)</b> | 75 % +/- 5 %                    |
| <b>Bifaciality (φV<sub>oc</sub>)</b>                  | 98 % +/- 2 %                    |
| <b>Maximum System Voltage</b>                         | 1500 V IEC                      |
| <b>Testing Temperature</b>                            | -40 °C to +85 °C                |
| <b>Operation Temperature</b>                          | -40 °C to +70 °C (IEC TS 63126) |
| <b>Maximum Series Fuse</b>                            | 30 A                            |
| <b>Power Temp. Coef.</b>                              | -0.26 %/°C                      |
| <b>Voltage Temp. Coef.</b>                            | -0.20 %/°C                      |
| <b>Current Temp. Coef.</b>                            | 0.05 %/°C                       |

**Mechanical Data**

|                              |                                                                                                 |
|------------------------------|-------------------------------------------------------------------------------------------------|
| <b>Solar Cells</b>           | N-Type Back Contact                                                                             |
| <b>Glass</b>                 | 2.0 mm + 2.0 mm, semi tempered glass<br>AR coating on front glass                               |
| <b>Junction Box</b>          | IP-68, 3 bypass diodes                                                                          |
| <b>Connector</b>             | Stäubli MC4 -EVO2A                                                                              |
| <b>Weight</b>                | 33.5 kg                                                                                         |
| <b>Max. Load<sup>5</sup></b> | Wind: 2400 Pa, 245 kg/m <sup>2</sup> front & back<br>Snow: 5400 Pa, 550 kg/m <sup>2</sup> front |
| <b>Impact Resistance</b>     | 25 mm diameter hail at 23 m/s                                                                   |
| <b>Frame</b>                 | Silver Anodized Aluminum Alloy                                                                  |

**Packaging Configuration**

|                                                |     |
|------------------------------------------------|-----|
| <b>Number of modules per pallet</b>            | 36  |
| <b>Number of pallets per 40ft HQ container</b> | 20  |
| <b>Number of modules per container</b>         | 720 |

**Tests and Certifications**

|                         |                                                     |
|-------------------------|-----------------------------------------------------|
| <b>Standard Tests</b>   | IEC 61215, IEC 61730                                |
| <b>Fire Rating</b>      | Class C (IEC 61730 - 2 / UL 790)                    |
| <b>Protection Class</b> | Class II (IEC 61140)                                |
| <b>Quality Certs</b>    | ISO 9001:2015, ISO 14001:2015                       |
| <b>EHS Compliance</b>   | ISO 45001:2018, ISO 50001:2018,<br>Recycling Scheme |



Please read the safety and installation instructions.  
Visit [www.tclsolar.com/resources](http://www.tclsolar.com/resources)  
Paper version can be requested through  
[techsupport.EN@sunpowerglobal.com](mailto:techsupport.EN@sunpowerglobal.com)

- Standard Test Conditions (1000 W/m<sup>2</sup> irradiance, AM 1.5, 25 °C). NREL calibration Standard: SOMS current, LACCS FF and Voltage.
- Measurements tolerance +/- 3 %.
- BNPI Test Condition (front 1000 W/m<sup>2</sup>, rear 135 W/m<sup>2</sup> irradiance, AM 1.5, 25 °C).
- The additional gain from the back side of the panel compared to the power of the front side of the panel at the standard test conditions. It depends on mounting (structure, height, tilt angle etc.) and albedo of the underlying surface.
- Test load as per IEC 61215-2 is equal to design load with safety factor = 1.5. See "Safety and Installation Instructions" for details.

