

## PERFORMANCE 5 | 545 W

### Power Plant Bifacial Solar Panel

SunPower Performance 5 UPP panels are engineered to meet the unique needs of large-scale solar power plants. Performance panels wrap conventional front contact cells with 35 years of SunPower materials, engineering and manufacturing expertise to enhance panel strength and durability. The weakest points of Conventional Panel design are eliminated to deliver superior power, reliability and value.<sup>1</sup>



#### More Energy

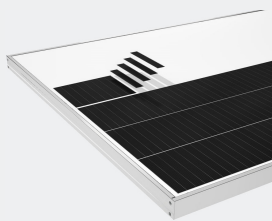
By exposing more active surface area across more mono PERC cells, Performance 5 UPP Bifacial panels optimize power density, while lowering system costs. The result is a high power panel uniquely suited for the needs of power plant developers, maximizing energy production within available space.



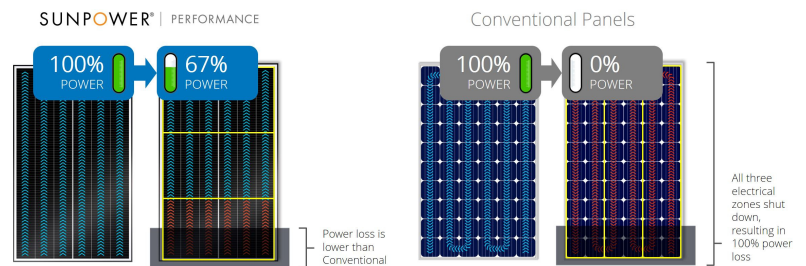
#### Trusted Durability

SunPower Performance panels are engineered to withstand a host of environmental challenges, such as daily temperature swings, high humidity and shading. In the case of shading, the unique parallel circuitry of Performance panels maximizes energy production during morning and evening row-to-row shading, or when panels become soiled.

#### Making the conventional, exceptional



- Redundant cell connections create flexible paths for continuous electricity flow.
- Aerospace-grade conductive adhesive delivers superior durability.
- A proprietary encapsulant minimizes cell degradation from environmental exposure.
- Smaller cells extend panel life, optimizing current to keep cells cooler when shaded.<sup>3</sup>



#### Proven Reliability

An innovative shingled cell design mitigates the leading reliability challenges associated with conventional front contact panels by designing out fragile ribbons and solder bonds on the cells. SunPower stands behind each Performance panel with a comprehensive power and product warranty. With proven results in real-world conditions, SunPower Performance Panels have become the most deployed shingled solar panel in the world.<sup>2</sup>

Electrical Data, Front STC characteristics <sup>4</sup>						
Model	SPR-P5-545-UPP	SPR-P5-540-UPP	SPR-P5-535-UPP	SPR-P5-530-UPP	SPR-P5-525-UPP	SPR-P5-520-UPP
Nominal Power (P <sub>nom</sub> ) <sup>3</sup>	545 W	540 W	535 W	530 W	525 W	520 W
Power Tolerance	+3/0%	+3/0%	+3/0%	+3/0%	+3/0%	+3/0%
Efficiency	21.1%	20.9%	20.7%	20.5%	20.4%	20.2%
Rated Voltage (V <sub>mp</sub> )	46.1 V	45.8 V	45.5 V	45.2 V	44.9 V	44.6 V
Rated Current (I <sub>mp</sub> )	11.84 A	11.80 A	11.77 A	11.74 A	11.71 A	11.68 A
Open-Circuit Voltage (V <sub>oc</sub> )	55.8 V	55.4 V	55.1 V	54.8 V	54.6 V	54.4 V
Short-Circuit Current (I <sub>sc</sub> )	12.62 A	12.59 A	12.57 A	12.54 A	12.52 A	12.43 A
Maximum System Voltage	1500 V IEC					
Maximum Series Fuse	25 A					
Power Temp. Coef.	-0.34% / ° C					
Voltage Temp. Coef.	-0.28% / ° C					
Current Temp. Coef.	0.06% / ° C					

Bifacial characteristics						
Bifaciality (ϕP <sub>max</sub> )	≥65%					
	563 W	558 W	552 W	547 W	542 W	537 W
I <sub>sc</sub> BiF05	13.03 A	13.00 A	12.98 A	12.95 A	12.93 A	12.83 A
P <sub>max</sub> BiF10	580 W	575 W	570 W	564 W	559 W	554 W
I <sub>sc</sub> BiF10	13.44 A	13.41 A	13.39 A	13.36 A	13.33 A	13.24 A
P <sub>max</sub> BiF20	616 W	610 W	605 W	599 W	593 W	588 W
I <sub>sc</sub> BiF20	14.26 A	14.23 A	14.20 A	14.17 A	14.15 A	14.05 A

Tests And Certifications (Pending)	
Standard Tests <sup>5</sup>	IEC 61215, IEC 61730 Rated to 1500 V
Quality Certs	ISO 9001:2008, ISO 14001:2004
EHS Compliance	OHSAS 18001:2007, Recycling Scheme
Ammonia Test	IEC 62716
Desert Test	MIL-STD-810G
Salt Spray Test	IEC 61701 (maximum severity)
LeTID Test <sup>6</sup>	IEC 61215 (MQT 23.1 LeTID detection) draft standard
PID Test	Potential-Induced Degradation free: 1500 V
Available Listings	TUV

Warranties	
12-year Product Workmanship Warranty	
30-year Power Warranty	
(Please refer to product warranty for details)	

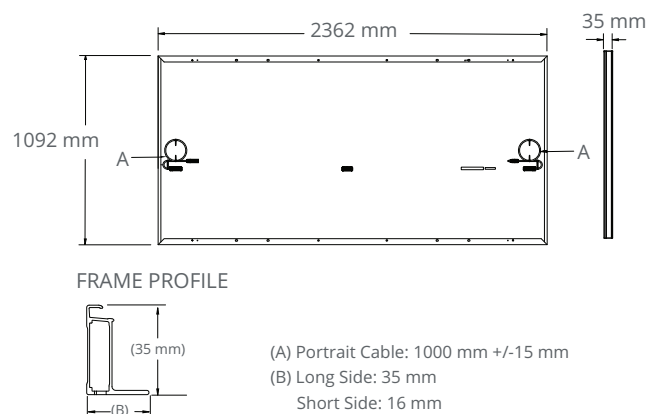
1 Independent Shade Study by CFV Laboratory.  
 2 Based on shipments as of Q2-2020.  
 3 SunPower Performance Series – Thermal Performance, Z.Campeau 2016.  
 4 Measured at Standard Test Conditions (STC): irradiance of 1000 W/m<sup>2</sup>, AM 1.5, and cell temperature 25° C.  
 5 Class C fire rating per IEC 61730.  
 6 Fraunhofer CSP LID Sensitivity according to IEC 61215 (MQT 23.1 LeTID detection), <1% power loss.

Designed in USA, assembled in China.

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

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Operating Condition And Mechanical Data	
Temperature	-40° C to +85° C
Impact Resistance	25 mm diameter hail at 23 m/s
Solar Cells	Monocrystalline PERC
Tempered Glass	High-transmission tempered anti-reflective
Junction Box	IP-68, MC4 Compatible, 3 bypass diodes
Weight	31.5 kg
Max. Load	Wind: 2400 Pa, 245 kg/m <sup>2</sup> front & back Snow: 5400 Pa, 550 kg/m <sup>2</sup> front
Frame	Class 2 silver anodized



Read safety and installation instructions before using this product.

**SUNPOWER®**

PERFORMANCE

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 Publication Date: July 2020