



Shingled Cell



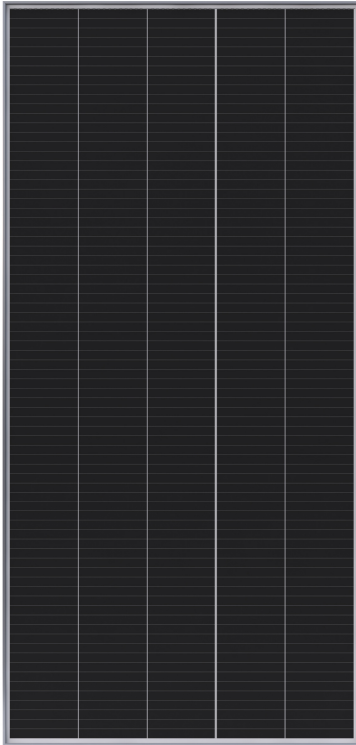
Bifacial



Framed
Glass-Glass

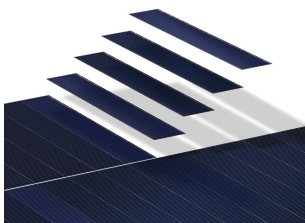


Large
Installations



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

POWER RANGE: 545 – 520 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



4+ GW
Deployed



60+
Countries



90+
Patents

A Better Product. A Better Warranty.

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% |

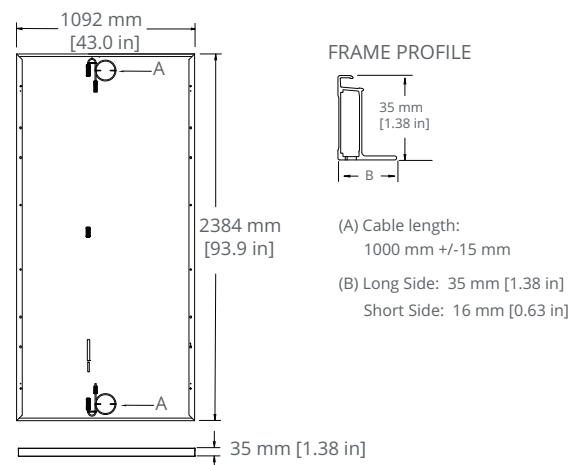
PERFORMANCE 5 POWER: 545 – 520 W - PRELIMINARY

Electrical Data, Front STC Characteristics ⁴						
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 _{nom}) ⁴	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	20.9%	20.7%	20.6%	20.4%	20.2%	20.0%
Rated Voltage (V _{mpp})	39.5 V	39.2 V	38.9 V	38.6 V	38.3 V	38.0 V
Rated Current (I _{mpp})	13.81 A	13.78 A	13.76 A	13.73 A	13.71 A	13.69 A
Open-Circuit Voltage (V _{oc}) (+/-3%)	47.8 V	47.6 V	47.4 V	47.1 V	46.8 V	46.6 V
Short-Circuit Current (I _{sc}) (+/-3%)	14.82 A	14.80 A	14.79 A	14.78 A	14.77 A	14.76 A
Maximum System Voltage	1500 V UL					
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 _{max})	70% +/-10%					
P _{max} BiF05	572 W	567 W	562 W	557 W	551 W	546 W
I _{sc} BiF05	15.56 A	15.54 A	15.53 A	15.52 A	15.51 A	15.50 A
P _{max} BiF10	600 W	594 W	589 W	583 W	578 W	572 W
I _{sc} BiF10	16.30 A	16.28 A	16.27 A	16.26 A	16.25 A	16.24 A
P _{max} BiF20	654 W	648 W	642 W	636 W	630 W	624 W
I _{sc} BiF20	17.78 A	17.76 A	17.75 A	17.74 A	17.72 A	17.71 A

Tests And Certifications (Pending)	
Standard Tests	UL1703
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 ⁵	IEC 61215 (MQT 23.1 LeTID detection) draft standard
PID Test	IEC 62804
Available Listings ⁶	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)
Solar Cells	Monocrystalline PERC
Tempered Glass	High-transmission tempered anti-reflective
Junction Box	IP-68, Renhe ZJRH 05-8 or Zerun Z4S or Stäubli Evo2, 3 bypass diodes
Weight	70.5 lbs (32 kg)
Max. Load	Wind: 50 psf, 2400 Pa, 244 kg/m ² back Snow: 112 psf, 5400 Pa, 550 kg/m ² front
Frame	Class 2 silver anodized



Please read the safety and installation guide.

- 1 Performance panels expected useful life of 35 years. Source: "P-Series Technology Technical Review," Leidos Independent Engineer Report. 2016.
- 2 Based on shipments as of Q2-2020.
- 3 Performance Series – Thermal Performance, Z.Campeau 2016.
- 4 Measured at Standard Test Conditions (STC): irradiance of 1000 W/m², AM 1.5, and cell temperature 25° C.
- 5 Fraunhofer CSP LID 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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