

SOLAHART SILHOUETTE N-TYPE RESIDENTIAL PANELS

SOLAHART425S5



The new Solahart Silhouette panel is our most advanced PV panel ever, featuring ultra-high performance, superior efficiency, and an impressive 30-year performance warranty. With its signature all-black design and innovative cell technology, it's the ideal solution for Australian homes.

This new model boosts panel efficiency to up to 21.8%, and with positive tolerance of up to 5W, guarantees that each Silhouette panel will have a rated maximum power on or above 425W at Standard Test Conditions.⁽¹⁾

The state-of-the-art n-type, monocrystalline half-cell and multi-busbar design offers excellent performance under Australian conditions, on hot summer days and even in low-light environments.

An exceptionally low panel degradation of 1% in the first year and 0.4% thereafter, combined with a lower temperature coefficient, means higher power generation and higher savings over the life of the system compared to p-type PERC panels in the same power class.

The exceptional 25-Year Solahart Australian Product Warranty and a 30-Year Performance Guarantee provide ultimate confidence and peace of mind.*

How you benefit:



MODERN DESIGN

Premium n-type technology with a contemporary design and striking all-black finish



HIGH SOLAR YIELD

Excellent low-light and temperature behaviour results in more energy production per square metre of panels.



HIGH PERFORMANCE

High efficiency (21.8%) and lower degradation for excellent performance and reliability.



DESIGNED FOR AUSTRALIA

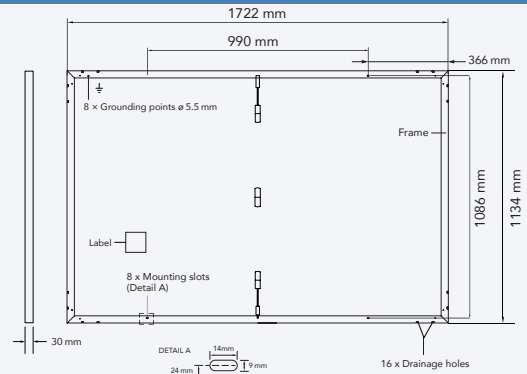
Designed for Australia to perform in all conditions, from low-light environment to high temperatures.



SOLAHART WARRANTY

25-Year Solahart Product Warranty for peace of mind, plus a 30-Year Performance Guarantee for long-term returns.*

Model	SOLAHART425S5	
Mechanical Data		
Dimensions (H x W x D)	1722 x 1134 x 30 mm (including frame)	
Weight	21.3 Kg	
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology	
Back Cover	Composite film	
Frame	Black Anodised Aluminium	
Cell	6 x 18 n-type monocrystalline solar half-cells	
Junction Box	Protection class IP68, with bypass diodes	
Cable	4 mm ² solar cable; (+) 1200 mm, (-) 1200 mm	
Connector	Stäubli MC4 connectors (PV-KST4 & PV-KSB4), IP68	



Electrical Data	
Minimum performance at standard test conditions, STC ⁽¹⁾ (Power Sorting 0 - +5W, Power Tolerance: +/-3%)	
Power at MPP ⁽²⁾ - P _{MPP}	425 Wp
Short circuit current ⁽²⁾ - I _{sc}	13.98 A
Open circuit voltage ⁽²⁾ - V _{oc}	38.20 V
Current at MPP [#] - I _{MPP}	13.24 A
Voltage at MPP [#] - V _{MPP}	32.10 V
Efficiency ⁽¹⁾ - η	21.8 %
Minimum performance at normal operating conditions, NMOT ⁽³⁾	
Power at MPP - P _{MPP}	319.6 Wp
Short circuit current [#] - I _{sc}	11.28 A
Open circuit voltage [#] - V _{oc}	36.29 V
Current at MPP [#] - I _{MPP}	10.58 A
Voltage at MPP [#] - V _{MPP}	30.21 V

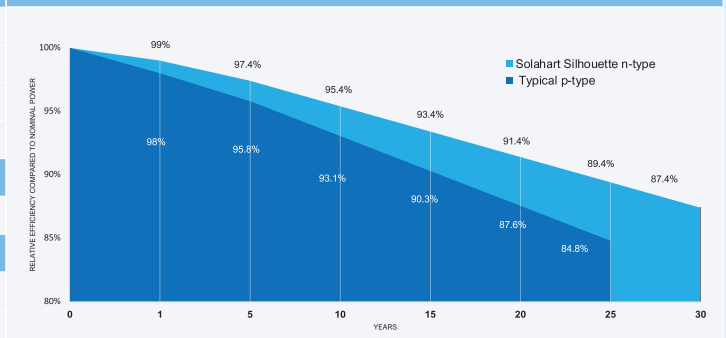
Other information	
Part Number	SOLAHART425S5
Solahart Product Warranty*	25 years
Performance Guarantee*	30 years
Country of Manufacture	China

Temperature Coefficients	
Normal module operating temperature (NMOT)	41+/-2 °C
Temperature coefficient of P _{MPP} - γ	-0.29 % / °C
Temperature coefficient of V _{oc} - β	-0.25 % / °C
Temperature coefficient of I _{sc} - α	+0.043 % / °C

Qualifications and Certificates	
IEC 61215: 2016; IEC 61730: 2016, Application class II.	

Properties for System Design	
Permitted module temp on continuous duty	-40°C up to +85°C
Maximum system voltage - V _{SYST}	1500 V
Maximum reverse current - I _R	25 A
Maximum design load, Push / Pull	3600 / 1600 Pa
Maximum test load, Push / Pull	5400 / 2400 Pa
Safety class	II
Fire rating based on ANSI / UL 61730	C / TYPE 2

Performance Guarantee



At least 99% of nominal power during the first year. Thereafter max 0.4% degradation per year.
 At least 95.4% of nominal power up to 10 years.
 At least 89.4% of nominal power up to 25 years.
 At least 87.4% of nominal power up to 30 years.
 All data within measurement tolerances.

Specifications and designs included in this data sheet are subject to change without notice.

⁽¹⁾1000 W/m², 25±2°C, AM 1.5 G. ⁽²⁾Measurement tolerances PMPP ±3%; ISC, VOC ±5% at STC. ⁽³⁾800 W/m², NMOT, spectrum AM 1.5 G. # Typical values, actual values may differ.
 * 25-year Solahart Product Warranty covers certain defects with the Solahart Silhouette panels. Please refer to the 'Solahart PV Systems Owner's Guide' for full details, available on Solahart's website www.solahart.com.au. 30-year Performance Guarantee is provided by the manufacturer of the Solahart Silhouette panels and guarantees the maximum reduction in power output performance of the panels over a 30-year period. Neither the Solahart Product Warranty nor the Performance Guarantee are intended to exclude, restrict or modify your rights under the Australian Consumer Law.
 *APT test conditions according to IEC/TS 62804-1:2015, method B (-1500 V, 168 h).