

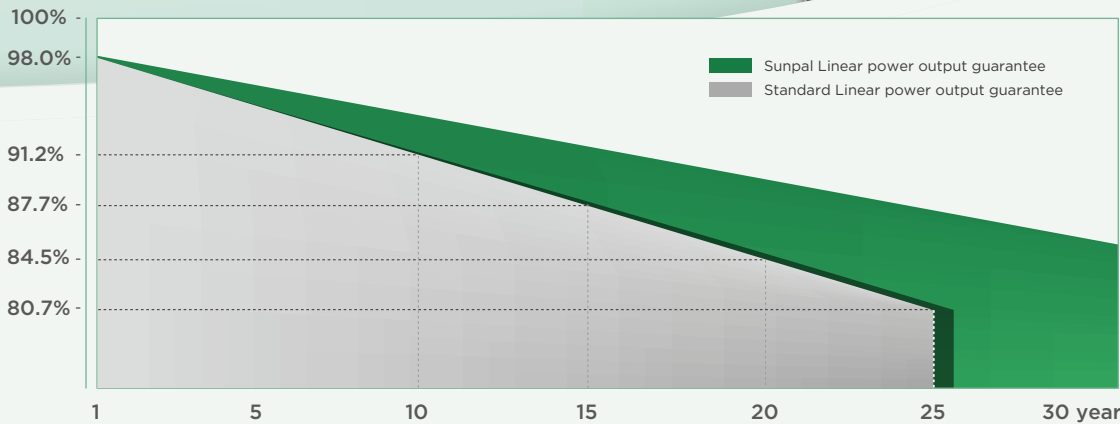
SP455MB-72H Bifacial

425~455W

High Efficiency Low LID Bifacial PERC with Half-cut Technology

Quality Guarantee

12-year material & technology warranty
30-year linear power output warranty



20.9%
Max Module Eff.

0~+5W
Positive Tolerance

Front side performance equivalent to conventional low LID mono PERC:

- >High module conversion efficiency (up to 20.9%)
- >Better energy yield with excellent low irradiance performance and temperature coefficient
- >First year power degradation <2%

Bifacial technology enables additional energy harvesting from rear side (up to 25%)

Glass/glass lamination ensures 30 year product lifetime, with annual power degradation < 0.45%, 1500V compatible to reduce BOS cost

Solid PID resistance ensured by solar cell process optimization and careful module BOM selection

Reduced resistive loss with lower operating current

Higher energy yield with lower operating temperature

Reduced hot spot risk with optimized electrical design and lower operating current

Complete System and Product Certifications

IEC 61215, IEC 61730, UL 61730

ISO 9001:2008: ISO Quality Management System

ISO 14001: 2004: ISO Environment Management System

OHSAS 18001: 2007 Occupational Health and Safety



* Specifications subject to technical changes and tests. Sunpal Solar reserves the right of interpretation.



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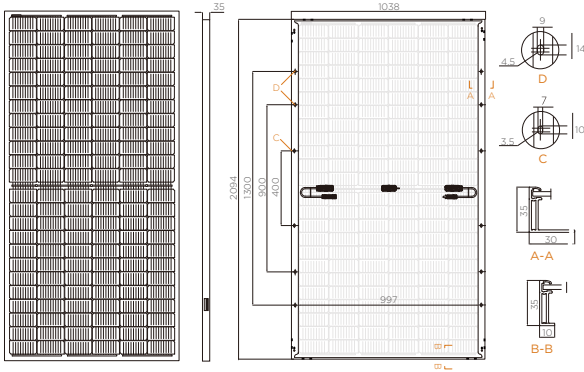
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Q Sunpal Power

Bifacial

SP455MB-72H 425~455W

Design (mm)



Cell Orientation	144 (6x24)
Junction Box	IP68, three diodes
Output Cable	4mm ² , 300mm in length, length can be customized
Glass	Dual glass 2.0mm coated tempered glass
Frame	Anodized aluminum alloy frame
Weight:	27.5kg
Dimension	2094x1038x35mm
Packaging	30pcs per pallet 150pcs per 20'GP 660pcs per 40'HC

Operational Temperature	-40°C~+85°C
Power Output Tolerance	0~+5W
Voc & Isc Tolerance	±3%
Max. System Voltage	DC1500V(IEC/UL)
Max. Series Fuse Rating	25A
NOCT	45±2°C
Safety Class	II
Fire Rating	UL type 3
Bifaciality	Glazing 70±5%
Max. Static Load(Front)	5400Pa
Max. Static Load(Back)	2400Pa

*Units: mm *Tolerance: ±2mm

Electrical Characteristics

Model Number	SP425MB-72H		SP430MB-72H		SP435MB-72H		SP440MB-72HC		SP445MB-72H		SP450MB-72H		SP455MB-72H	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	425	317.4	430	321.1	435	324.9	440	328.6	445	332.3	450	336.1	455	339.8
Open Circuit Voltage (Voc/V)	48.7	45.6	48.9	45.8	49.1	45.9	49.2	46.0	49.4	46.2	49.6	46.4	49.8	46.6
Short Circuit Current (Isc/A)	11.22	9.06	11.30	9.13	11.36	9.18	11.45	9.25	11.52	9.30	11.58	9.36	11.65	9.41
Voltage at Maximum Power (Vmp/V)	40.4	37.7	40.6	37.9	40.8	38.0	41.0	38.2	41.2	38.4	41.4	38.6	41.6	38.8
Current at Maximum Power (Imp/A)	10.52	8.42	10.60	8.49	10.66	8.54	10.73	8.60	10.80	8.65	10.87	8.70	10.93	8.76
Module Efficiency(%)	19.6		19.8		20.0		20.2		20.5		20.7		20.9	
Temperature Coefficient of Isc	+0.050%/°C													
Temperature Coefficient of Voc	-0.284%/°C													
Temperature Coefficient of Pmax	-0.350%/°C													

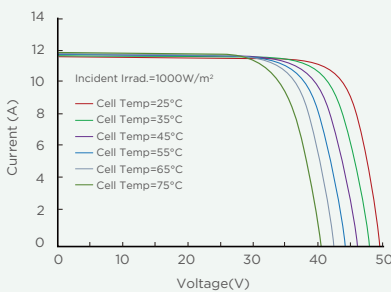
* STC (Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25°C, Spectra at AM1.5
 * NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m², Ambient Temperature 20°C, Spectra at AM1.5, Wind at 1m/S
 *Test uncertainty for Pmax: ±3%

Electrical characteristics with different rear side powerin (reference to 445W front)

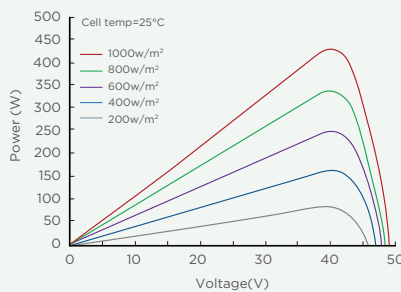
Pmax/W	Voc/V	Isc/A	Vmp/V	Imp/A	Pmax gain
467	49.4	12.09	41.2	11.34	5%
490	49.4	12.67	41.2	11.88	10%
512	49.5	13.24	41.3	12.42	15%
534	49.5	13.82	41.3	12.96	20%
556	49.5	14.40	41.3	13.50	25%

I-V Curve

Current-Voltage Curve(SP440MB-72H)



Current-Voltage Curve(SP440MB-72H)



Current-Voltage Curve(SP440MB-72H)

