

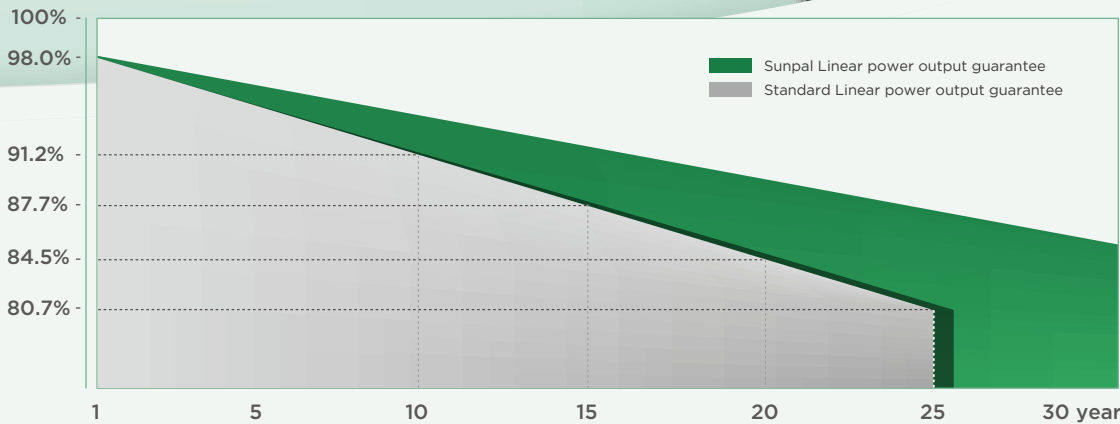
**BiMAX** 4 Bifacial Double Glass

# 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.



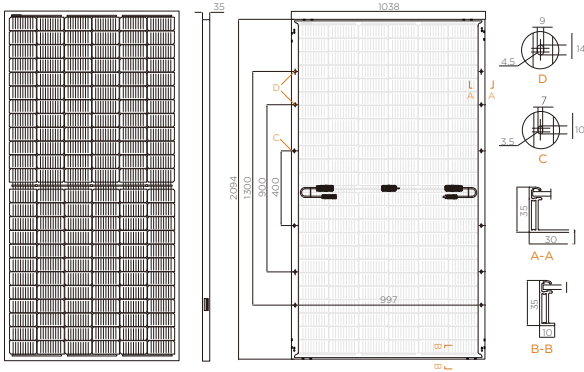
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**Design (mm)**



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

<b>Operational Temperature</b>	-40°C~+85°C
<b>Power Output Tolerance</b>	0~+5W
<b>Voc &amp; Isc Tolerance</b>	±3%
<b>Max. System Voltage</b>	DC1500V(IEC/UL)
<b>Max. Series Fuse Rating</b>	25A
<b>NOCT</b>	45±2°C
<b>Safety Class</b>	II
<b>Fire Rating</b>	UL type 3
<b>Bifaciality</b>	Glazing 70±5%
<b>Max. Static Load(Front)</b>	5400Pa
<b>Max. Static Load(Back)</b>	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
<b>Maximum Power (Pmax/W)</b>	425	317.4	430	321.1	435	324.9	440	328.6	445	332.3	450	336.1	455	339.8
<b>Open Circuit Voltage (Voc/V)</b>	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
<b>Short Circuit Current (Isc/A)</b>	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
<b>Voltage at Maximum Power (Vmp/V)</b>	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
<b>Current at Maximum Power (Imp/A)</b>	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
<b>Module Efficiency(%)</b>	19.6		19.8		20.0		20.2		20.5		20.7		20.9	
<b>Temperature Coefficient of Isc</b>	+0.050%/°C													
<b>Temperature Coefficient of Voc</b>	-0.284%/°C													
<b>Temperature Coefficient of Pmax</b>	-0.350%/°C													

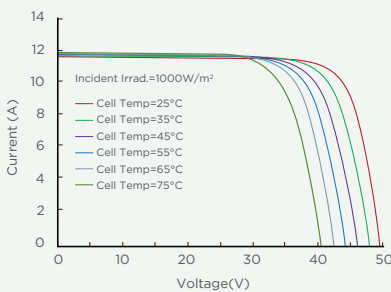
\* STC (Standard Testing Conditions): Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Spectra at AM1.5  
 \* NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, Spectra at AM1.5, Wind at 1m/S  
 \*Test uncertainty for Pmax: ±3%

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

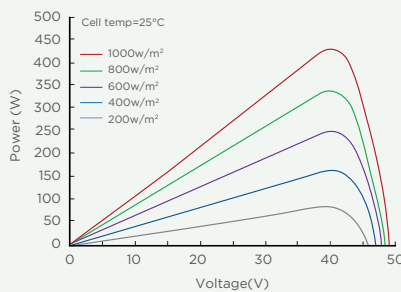
Pmax/W	Voc/V	Isc/A	Vmp/V	Imp/A	Pmax gain
467	49.4	12.09	41.2	11.34	5%
490	49.4	12.67	41.2	11.88	10%
512	49.5	13.24	41.3	12.42	15%
534	49.5	13.82	41.3	12.96	20%
556	49.5	14.40	41.3	13.50	25%

**I-V Curve**

Current-Voltage Curve(SP440MB-72H)



Current-Voltage Curve(SP440MB-72H)



Current-Voltage Curve(SP440MB-72H)

