

SP380MB-60H Bifacial

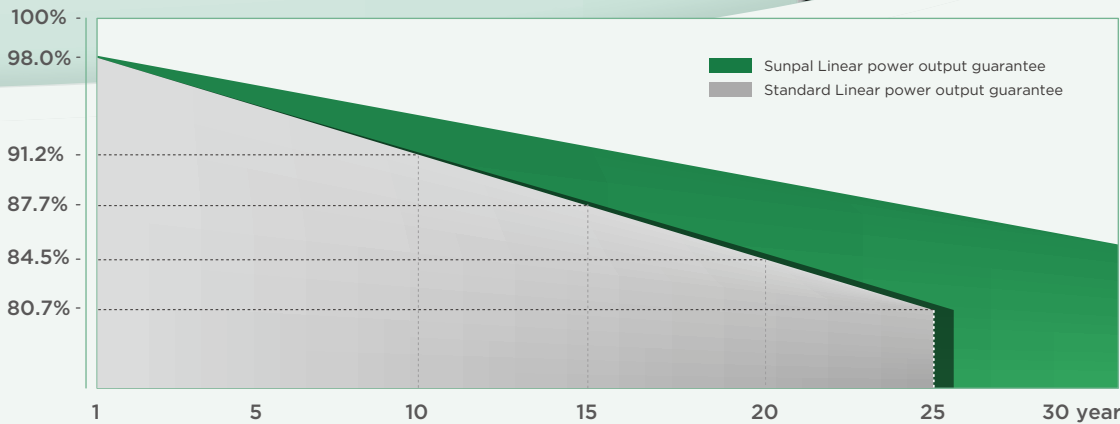
# 350~380W



**High Efficiency**  
**Low LID Bifacial PERC with**  
**MBB & 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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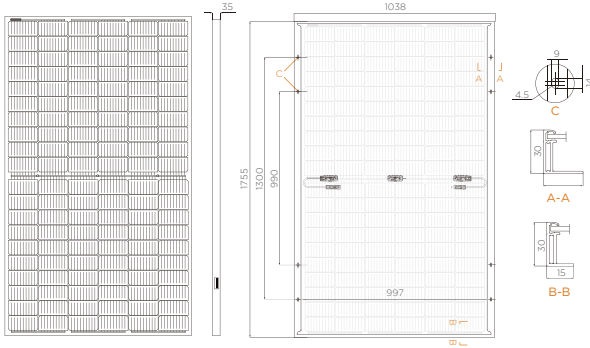
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Bifacial

# SP380MB-60H 350~380W

## Design (mm)



<b>Cell Orientation</b>	120 (6x20)
<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>	23.3kg
<b>Dimension</b>	1755x1038x30mm
<b>Packaging</b>	35pcs per pallet 210pcs per 20'GP 910pcs 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	SP350MB-60H		SP355MB-60H		SP360MB-60H		SP365MB-60H		SP370MB-60H		SP375MB-60H		SP380MB-60H	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
<b>Maximum Power (Pmax/W)</b>	350	260.3	355	264.0	360	267.7	365	271.4	370	275.1	375	278.8	380	282.6
<b>Open Circuit Voltage (Voc/V)</b>	40.1	37.4	40.3	37.5	40.5	37.7	40.7	37.9	40.9	38.1	41.1	38.3	41.3	38.5
<b>Short Circuit Current (Isc/A)</b>	11.15	9.03	11.24	9.10	11.33	9.17	11.41	9.24	11.50	9.31	11.58	9.38	11.67	9.45
<b>Voltage at Maximum Power (Vmp/V)</b>	33.5	31.1	33.7	31.3	33.9	31.5	34.1	31.7	34.3	31.8	34.5	32.0	34.7	32.2
<b>Current at Maximum Power (Imp/A)</b>	10.45	8.37	10.54	8.44	10.62	8.51	10.71	8.58	10.79	8.64	10.87	8.71	10.96	8.77
<b>Module Efficiency(%)</b>	19.2		19.5		19.8		20.0		20.3		20.6		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

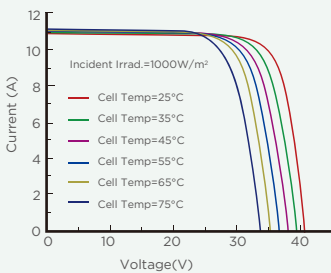
\*Test uncertainty for Pmax: ±3%

## Electrical characteristics with different rear side powerin (reference to 365W front)

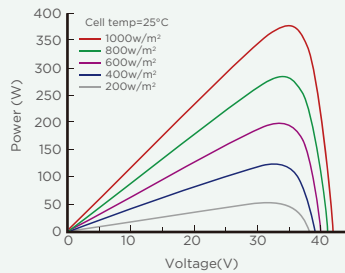
Pmax/W	Voc/V	Isc/A	Vmp/V	Imp/A	Pmax gain
383	40.7	11.99	34.1	11.24	5%
402	40.7	12.56	34.1	11.78	10%
420	40.8	13.13	34.2	12.31	15%
438	40.8	13.7	34.2	12.85	20%
456	40.8	14.27	34.2	13.38	25%

## I-V Curve

Current-Voltage Curve(SP365MB-60H)



Current-Voltage Curve(SP365MB-60H)



Current-Voltage Curve(SP365MB-60H)

