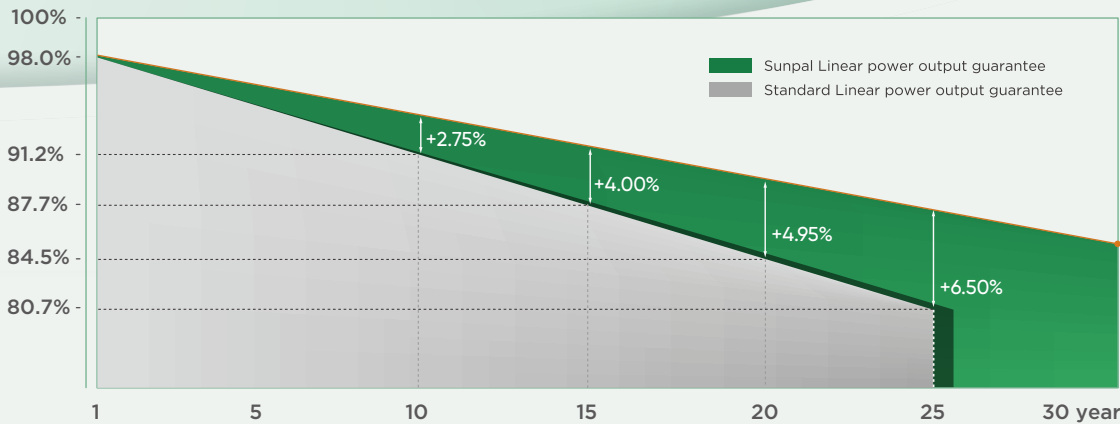


# 660~685W

**210mm Cells Mono  
Bifacial PERC with MBB &  
Half-cut Technology**

## Quality Guarantee

12-year Warranty for Materials and Processing  
30-year Warranty for Extra Linear Power Output



**84.95%**  
**22.06%**  
Max Module Eff.  
**0~+5W**  
Positive Tolerance

### 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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\* Caution: read safety and installation instructions before using the product.

\* Specifications included in this datasheet are subject to change without notice.

**Positive power tolerance (0~+5W) guaranteed**

**High module conversion efficiency** (up to 22.06%)

**Slower power degradation** enabled by Low LID Mono PERC technology: first year <2%, 0.55% year 2-25

**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



Design (mm)



Cell Orientation	132 (6x22)
Junction Box	IP68, three diodes
Output Cable	4mm <sup>2</sup> , 300mm in length, length can be customized
Glass	Double/Single glass 2.0/3.2mm coated tempered
Frame	Anodized aluminum alloy frame
Weight:	38.7kg±3%
Dimension	2384x1303x35 mm
Packaging	31pcs per pallet 558pcs per 40'GP

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	30A
NOCT	45±2°C
Safety Class	II
Fire Rating	UL type 1 or 2
Max. Static Load(Front)	5400Pa
Max. Static Load(Back)	2400Pa

\*Units: mm \*Tolerance: ±2mm

Electrical Characteristics

Model Number	SP660M-66H		SP665M-66H		SP670M-66H		SP675M-66H		SP680M-66H		SP685M-66H	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	660	500	665	504	670	508	675	512	680	516	685	520
Open Circuit Voltage (Voc/V)	45.7	43	45.9	43.2	46.1	43.4	46.3	43.6	46.5	43.8	46.7	44
Short Circuit Current (Isc/A)	18.53	14.93	18.58	14.97	18.63	15.01	18.68	15.05	18.73	15.09	18.78	15.13
Voltage at Maximum Power (Vmp/V)	37.8	35.3	38	35.5	38.2	35.7	38.4	35.9	38.6	36.1	38.8	36.3
Current at Maximum Power (Imp/A)	17.47	14.17	17.5	14.2	17.54	14.23	17.58	14.27	17.62	14.3	17.66	14.33
Module Efficiency(%)	21.25		21.41		21.57		21.73		21.9		22.06	
Temperature Coefficient of Isc	+0.04%/°C											
Temperature Coefficient of Voc	-0.25%/°C											
Temperature Coefficient of Pmax	-0.34%/°C											

\* STC (Standard Testing Conditions): Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Spectra at AM1.5

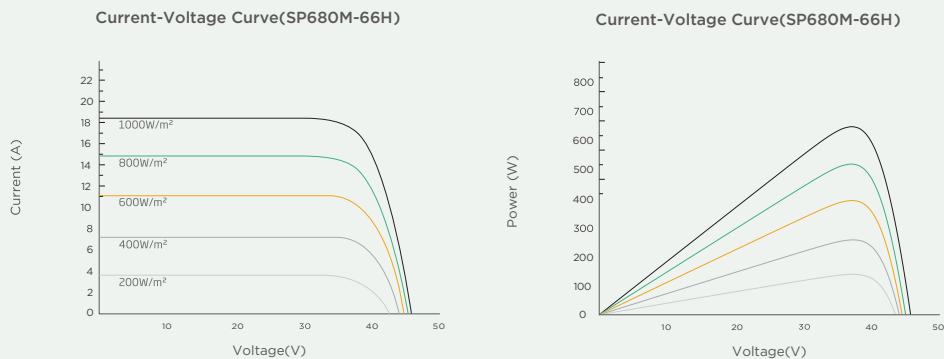
\* NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, Spectra at AM1.5, Wind at 1m/s

\* Test uncertainty for Pmax: ±3%

Electrical characteristics with different rear side powerin (reference to 670W front)

Pmax/W	Vmp/V	Imp/A	Voc/V	Isc/A	Pmax gain
704	38.2	18.43	46.1	19.56	5%
737	38.2	19.29	46.2	20.49	10%
717	38.2	20.18	46.3	21.42	15%
804	38.2	21.05	46.4	22.36	20%
838	38.2	21.94	46.5	23.29	25%

I-V Curve



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