



# Lumina II



## High Power Output

With 210 large wafer technology and slicing technology, multi-grid technology, high-density module packaging to ensure higher power output of modules



## High Reliability

Excellent harsh tests results and advanced half-cell tech improve product reliability for long-term life cycle



## Extra power generation

N-type wafers and cells bring ultralow LID&LeTID degradation, less than 1% 1<sup>st</sup> year degradation guaranteed, in addition lower temperature coefficient and better weak-light response provide extra power generation



## High ROI

Bifacial power generation reduces BOS and system LCOE dramatically, promoting the project ROI

**SolarSpace Technology Co., Ltd.** was established in 2011, as a world leading solar cell and module manufacturer, concentrating on high efficient solar-technology production with 60GW+ capacity of solar cell and 7.2GW capacity of solar module in China and overseas.

\*Please refer to SolarSpace for details

## SS9-66HD

## 670-690N

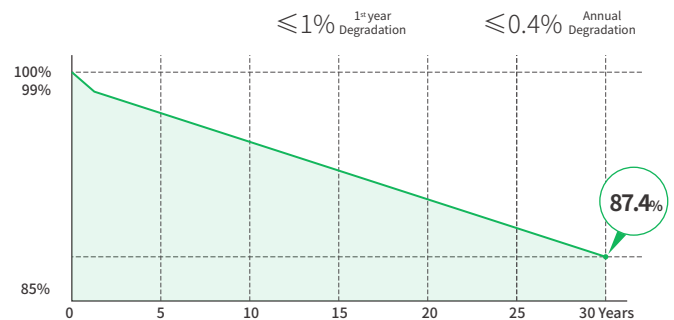
N-Type Bifacial Dual Glass Module

# 690W

Maximum Power Output

# 22.21%

Maximum Module Efficiency



**12**Years Product Warranty **30**Years Linear Power Warranty

### Comprehensive Certificates

- IEC61215 • IEC61730
- IEC61701: Salt mist corrosion test • IEC62716: Ammonia corrosion test
- IEC60068: Dust and Sand test
- ISO9001:2015: Quality Management System
- ISO14001:2015: Environment Management System
- ISO45001:2018: Occupational Health and Safety Management Systems



## Electric Characteristics(STC)

Module Type	SS9-66HD -670N	SS9-66HD -675N	SS9-66HD -680N	SS9-66HD -685N	SS9-66HD -690N
Maximum Power (Pmax) [W]	670	675	680	685	690
Open-Circuit Voltage (Voc)[V]	47.10	47.30	47.50	47.60	47.80
Maximum Power Voltage (Vmp) [V]	39.30	39.50	39.70	39.90	40.10
Short-Circuit Current (Isc)[A]	18.09	18.13	18.17	18.20	18.24
Maximum Power Current (Imp) [A]	17.06	17.10	17.14	17.18	17.21
Module Efficiency	21.57%	21.73%	21.89%	22.05%	22.21%

Irradiation 1000W/m<sup>2</sup>, Cell Temperature 25°C, AM=1.5

## Bifacial Output-Rearside Power Gain (680W)

Power Gain	5%	10%	15%	20%	25%
Maximum Power (Pmax) [W]	714	748	782	816	850
Open-Circuit Voltage (Voc)[V]	47.70	47.70	47.70	47.80	47.80
Maximum Power Voltage (Vmp) [V]	39.70	39.70	39.70	39.80	39.80
Short-Circuit Current (Isc)[A]	18.73	19.44	20.13	20.85	21.56
Maximum Power Current (Imp) [A]	17.99	18.85	19.70	20.51	21.36

## Electric Characteristics (NMOT)

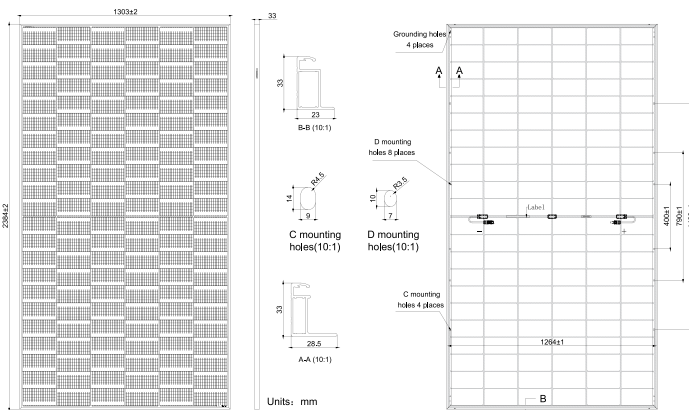
Module Type	SS9-66HD -670N	SS9-66HD -675N	SS9-66HD -680N	SS9-66HD -685N	SS9-66HD -690N
Maximum Power (Pmax) [W]	510	514	518	522	526
Open-Circuit Voltage (Voc)[V]	44.40	44.60	44.80	45.10	45.30
Maximum Power Voltage (Vmp) [V]	36.60	36.80	37.00	37.20	37.40
Short-Circuit Current (Isc)[A]	14.60	14.63	14.66	14.68	14.72
Maximum Power Current (Imp) [A]	13.94	13.97	14.01	14.04	14.07

Irradiance 800 W/m<sup>2</sup>, Ambient Temperature 20 °C, Wind Speed 1 m/s, AM=1.5

## Temperature coefficients

Temperature coefficient of Isc	+0.045%/°C
Temperature coefficient of Voc	-0.260%/°C
Temperature coefficient of Pmax	-0.290%/°C
NMOT	45 ± 2°C

## Engineering Design



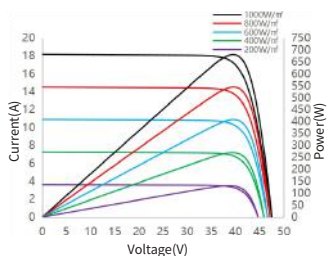
## Mechanical Characteristics

Cell Type	N-Type
Number of Cells	132(6x22)
Dimensions	2384X1303X33mm
Weight	37.5kg
Glass	Front glass, 2.0mm coated semi-tempered glass Back Glass, 2.0mm white glazed semi-tempered glass
Frame	Anodized Aluminum Alloy
Output Cables	4mm <sup>2</sup> (IEC),12AWG(UL), 300mm(including connector)
Junction Box	IP68 Rated, 3 diodes
Connector	MC4-EVO2 or MC4 Compatible
Packaging	33 Pieces/Pallet, 594 pieces/40' container

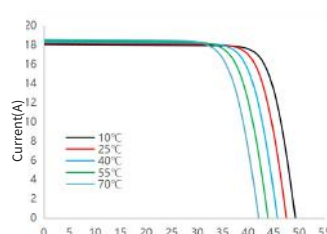
Frame color and cable length are subject to the actual order

## Characteristics

I-V/P-V Curve at Different Irradiation  
SS9-66HD-680N



I-V Curve at Different Temperature  
SS9-66HD-680N



## Operating Conditions

Maximum System Voltage	1500V DC (IEC)
Power Tolerance	0~+2%
Operating Temperature	-40°C~+85°C
Maximum Series Fuse Rating	35A
Mechanical Load Front Rear	5400Pa
Mechanical Load Back Rear	2400Pa
Bifaciality	80 ± 5%

