

# Lumina II



## Super Power Output

SolarSpace advanced N-Type cells combined with MBB and high-density encapsulation provides ultra-high power output



## 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 ~10GW capacity of solar module in China and overseas.

\*Please refer to SolarSpace for details

**SSA-48HD**

**440-460N**

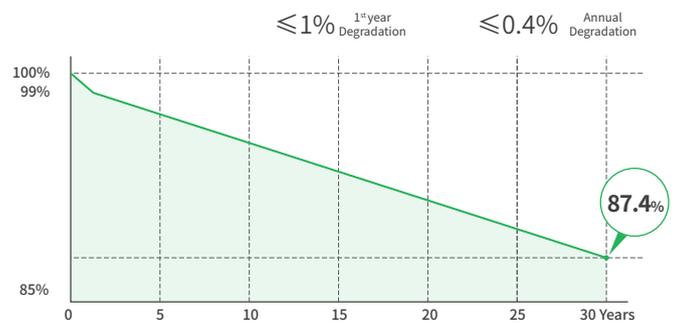
N-Type Bifacial Dual Glass Module

**460W**

Maximum Power Output

**23.02%**

Maximum Module Efficiency



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

### Comprehensive Certificates

- IEC61215 • IEC61730 • UL61215 • UL61730
- 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	SSA-48HD	SSA-48HD	SSA-48HD	SSA-48HD	SSA-48HD
	-440N	-445N	-450N	-455N	-460N
Maximum Power (Pmax) [W]	440	445	450	455	460
Open-Circuit Voltage (Voc) [V]	34.84	35.02	35.20	35.38	35.56
Maximum Power Voltage (Vmp) [V]	29.73	29.91	30.09	30.27	30.45
Short-Circuit Current (Isc) [A]	15.94	15.99	16.04	16.09	16.14
Maximum Power Current (Imp) [A]	14.81	14.89	14.97	15.05	15.13
Module Efficiency	22.02%	22.27%	22.52%	22.77%	23.02%

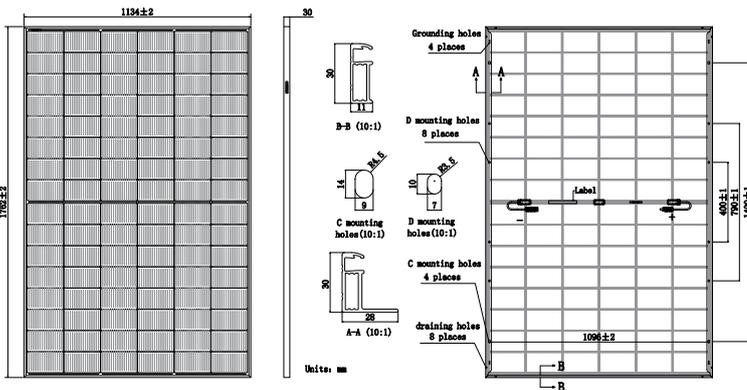
Irradiation 1000W/m<sup>2</sup>, Cell Temperature 25°C, AM=1.5

## Electric Characteristics (NMOT)

Module Type	SSA-48HD	SSA-48HD	SSA-48HD	SSA-48HD	SSA-48HD
	-440N	-445N	-450N	-455N	-460N
Maximum Power (Pmax) [W]	332	335	339	344	348
Open-Circuit Voltage (Voc) [V]	33.00	33.10	33.30	33.50	33.70
Maximum Power Voltage (Vmp) [V]	27.70	27.90	28.00	28.20	28.30
Short-Circuit Current (Isc) [A]	12.90	12.90	13.00	13.00	13.10
Maximum Power Current (Imp) [A]	12.00	12.00	12.10	12.20	12.30

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

## Engineering Design



## Bifacial Output-Rearside Power Gain (445W)

Power Gain	5%	10%	15%	20%	25%
Maximum Power (Pmax) [W]	467	490	512	534	556
Open-Circuit Voltage (Voc) [V]	35.02	35.02	35.02	35.12	35.12
Maximum Power Voltage (Vmp) [V]	29.91	29.91	29.91	30.01	30.01
Short-Circuit Current (Isc) [A]	16.79	17.59	18.39	19.19	19.99
Maximum Power Current (Imp) [A]	15.62	16.37	17.11	17.79	18.54

## Temperature Coefficients

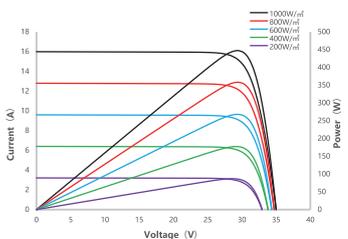
Temperature Coefficient of Isc	+0.045%/°C
Temperature Coefficient of Voc	-0.260%/°C
Temperature Coefficient of Pmax	-0.290%/°C
NMOT	45 ± 2°C

## Mechanical Characteristics

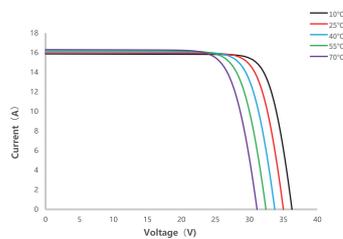
Cell Type	N-Type
Number of Cells	96(6x16)
Dimensions	1762X1134X30mm
Weight	24.5kg
Glass	Front glass, 2.0mm coated semi-tempered glass Back Glass, 2.0mm glazed semi-tempered glass
Frame	Anodized Aluminum Alloy
Output Cables	4mm <sup>2</sup> (IEC), 12AWG(UL), 300mm(including connector)
Junction Box	IP68 Rated, 3 diodes
Connector	PC-SS01 / PC-SS02 / MC4-EVO2 / MC4-EVO2A
Packaging	36 Pieces / Pallet, 936 pieces / 40' container Frame color and cable length are subject to the actual order

## Characteristics

I-V/P-V Curve at Different Irradiation  
SSA-48HD-445N



I-V Curve at Different Temperature  
SSA-48HD-445N



## Operating Conditions

Maximum System Voltage	1500V DC (UL)
Power Tolerance	0~+3%
Operating Temperature	-40°C~+85°C
Maximum Series Fuse Rating	35A
Mechanical Load Front Rear	5400Pa
Mechanical Load Back Rear	2400Pa
Bifaciality	80 ± 10%

