Lumina II

SSA-48HDB 420-440N

N-TOPCon Bifacial Dual Glass Module

440W
Maximum
Power Output

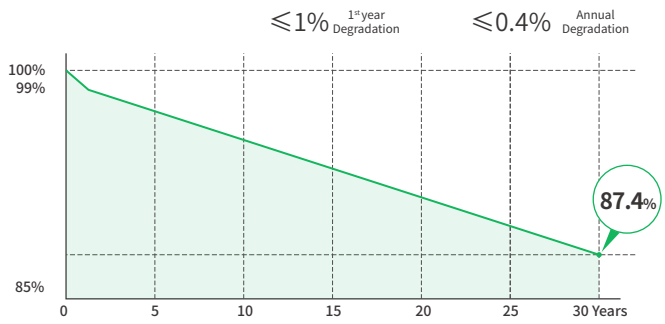
22.02%
Maximum
Module Efficiency

Super Power Output
SolarSpace advanced TOPCon 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% 1st 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



15 Years Product Warranty **30** Years Linear Power Warranty

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 58.75W+ capacity of solar cell and 5.7GW capacity of solar module in China and overseas.

*Please refer to SolarSpace for details

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	SSA-48HDB -420N	SSA-48HDB -425N	SSA-48HDB -430N	SSA-48HDB -435N	SSA-48HDB -440N
Maximum Power (Pmax) [W]	420	425	430	435	440
Open-Circuit Voltage (Voc)[V]	34.12	34.30	34.48	34,66	34,84
Maximum Power Voltage (Vmp) [V]	29.01	29.19	29.37	29,55	29,73
Short-Circuit Current (Isc)[A]	15.74	15.79	15.84	15,89	15,94
Maximum Power Current (Imp) [A]	14.49	14.57	14.65	14,73	14,81
Module Efficiency	21.02%	21.27%	21.52%	21,77%	22,02%

Irradiation 1000W/m², Cell Temperature 25°C, AM=1.5

Bifacial Output-Rearside Power Gain （430W）

Power Gain	5%	10%	15%	20%	25%
Maximum Power (Pmax) [W]	452	473	495	516	556
Open-Circuit Voltage (Voc)[V]	34.48	34.48	34.48	34.58	34.58
Maximum Power Voltage (Vmp) [V]	29.37	29.37	29.37	29.47	29.47
Short-Circuit Current (Isc)[A]	16.63	17.42	18.22	19.01	19.80
Maximum Power Current (Imp) [A]	15.37	16.10	16.84	17.51	18.24

Electric Characteristics (NMOT)

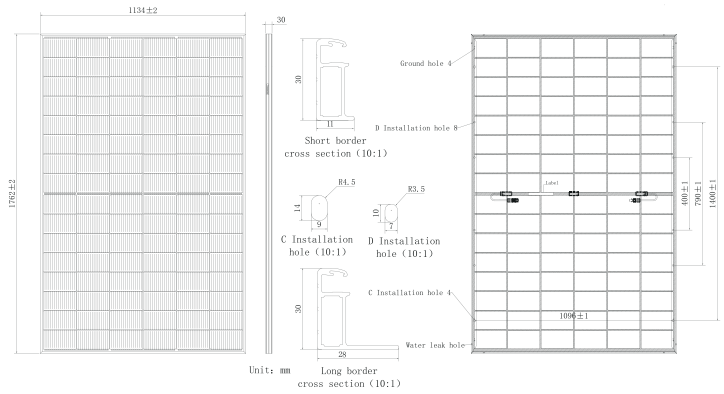
Module Type	SSA-48HDB -420N	SSA-48HDB -425N	SSA-48HDB -430N	SSA-48HDB -435N	SSA-48HDB -440N
Maximum Power (Pmax) [W]	315	319	323	327	331
Open-Circuit Voltage (Voc)[V]	32.20	32.40	32.60	32.80	33.00
Maximum Power Voltage (Vmp) [V]	27.00	27.10	27.20	27.50	27.70
Short-Circuit Current (Isc)[A]	12.80	12.80	12.80	12.90	12.90
Maximum Power Current (Imp) [A]	11.70	11.80	11.90	11.90	12.00

Irradiance 800 W/m² , 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

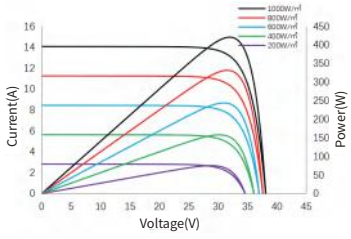


Mechanical Characteristics

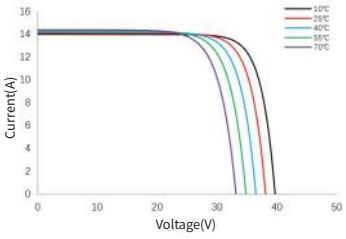
Cell Type	N-TOPCon
Number of Cells	96(6x16)
Dimensions	1762X1134X30mm
Weight	24.5kg
Glass	Front glass, 2.0mm coated semi-tempered glass
	Back Glass, 2.0mm glazed semi-tempered glass
Frame	Black，Anodized Aluminum Alloy
Output Cables	4mm²(IEC),12AWG(UL), 300mm(including connector) or Customized Length
Junction Box	IP68 Rated, 3 diodes
Connector	MC4-EVO2 or MC4 Compatible
Packaging	36 Pieces/Pallet, 936 pieces/40’ container

Characteristics

I-V/P-V Curve at Different Irradiation
SSA-48HDB-430N



I-V Curve at Different Temperature
SSA-48HDB-430N



Operating Conditions

Maximum System Voltage	1500V DC (IEC)
Power Tolerance	0~+3%
Operating Temperature	-40°C~+85°C
Maximum Series Fuse Rating	30A
Mechanical Load Front Rear	5400Pa
Mechanical Load Back Rear	2400Pa
Bifaciality	80±10%