

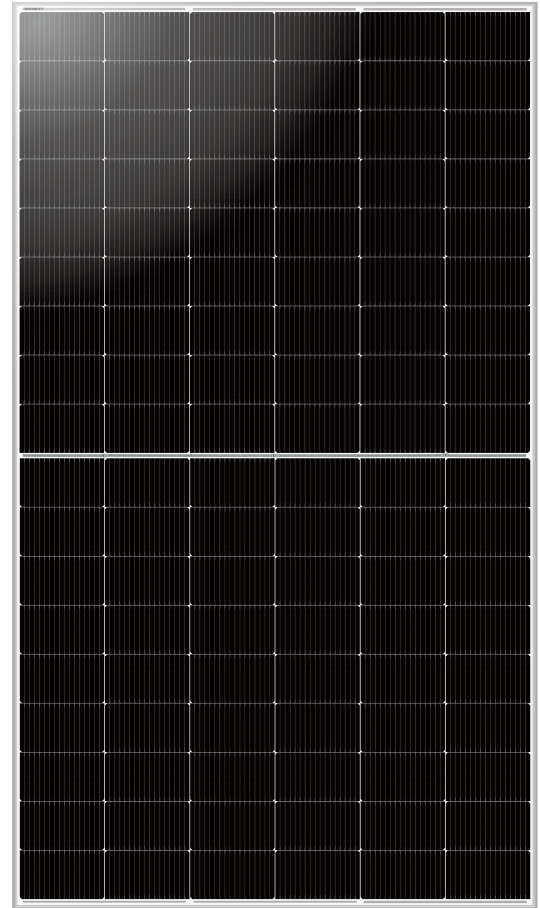
# Swan series

Double Glass BiFacial N-Type TOPCon Solar Module

# 495~520W

Model: UL-\*\*\*M-108DDGN

Maximum Efficiency: **23.38%**



### Bifacial Mono Module

Capable of generating power at back side, 80±5% efficiency of the front side



### Longer Term Reliability

Passed the IEC63209-1:2021 standard test (With testing standards 2 to 3 times stricter than regular IEC requirements)



### Outstanding Mechanical load Resistance

2mm+2mm front and back sides tempered glass, sturdy and durable, resistant to hail impact, with a snow load of 5400Pa and a wind load of 2400Pa



### Anti-PID(potential induced degradation)

Passed anti-PID test under 85°C damp heat 85% relative humidity for 192 hours



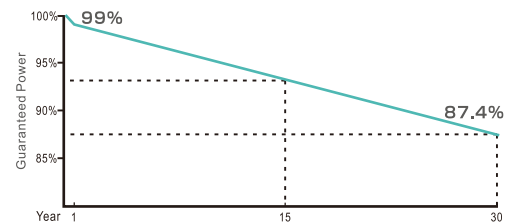
### Lower LCOE

Lower shading and resistive loss Lower temperature coefficient



### Full-Scenario Resilience

Proven through rigorous resistance tests for salt mist, ammonia corrosion, sand & dust, and LeTID degradation



**15** Year Product Warranty    **1%** Power Degradation In The First Year

**30** Year Linear Power Warranty    **0.4%** Linear Power Degradation

IEC 61215, IEC 61730

ISO 9001: 2015(Quality management systems)

ISO 14001: 2015 (Environmental management systems)

ISO45001: 2018 (Occupational health and safety)

UNI 9177 Fire Test: Class 1



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## ELECTRICAL SPECIFICATIONS

Module Type	UL-495M-108DDGN		UL-500M-108DDGN		UL-505M-108DDGN		UL-510M-108DDGN		UL-515M-108DDGN		UL-520M-108DDGN	
	STC*	NOCT*	STC*	NOCT*	STC*	NOCT*	STC*	NOCT*	STC*	NOCT*	STC*	NOCT*
Maximum Power(Pmax)	W 495	375	500	379	505	383	510	386	515	390	520	394
Maximum Power Voltage(Vmp)	V 33.02	30.38	33.17	30.52	33.32	30.65	33.47	30.79	33.57	30.88	33.67	30.98
Maximum Power Current(Imp)	A 14.99	12.35	15.08	12.42	15.16	12.48	15.24	12.55	15.34	12.64	15.44	12.72
Open-circuit Current(Voc)	V 39.67	36.10	39.83	36.25	39.99	36.39	40.16	36.55	40.22	36.60	40.26	36.64
Short-circuit Current(Isc)	A 15.90	12.83	15.96	12.87	16.02	12.92	16.08	12.97	16.12	13.00	16.16	13.04
Module Efficiency STC	% 22.26		22.48		22.71		22.93		23.16		23.38	

\*STC:Cell temperature:25°C,Irradiance:1000W/m²,Ari mass:1.5G,Power measurement tolerance: ±3%  
 \*NOCT:Air temperature:20°C,Irradiance:1000W/m²,Ari mass:1.5G,Wind speed:1m/s

## OPERATING PARAMETERS

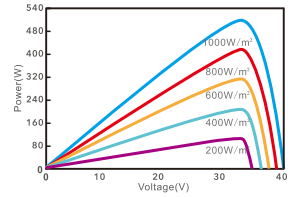
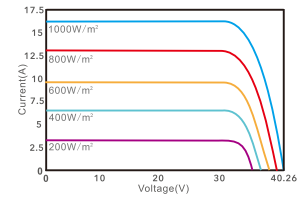
Operating Temperature	-40°C~85°C
Maximum system voltage	DC1500V(IEC)
Maximum series fuse rating	30A
Nominal operating cell temperature	43±2°C
Power tolerance	0~+5Watt

## TEMPERATURE RATINGS

Temperature coefficients of Pmax	-0.29%/°C
Temperature coefficients of Voc	-0.25%/°C
Temperature coefficients of Isc	0.046%/°C

## I-V CURVE

I-V characteristics at different irradianations (reference to 520 W)



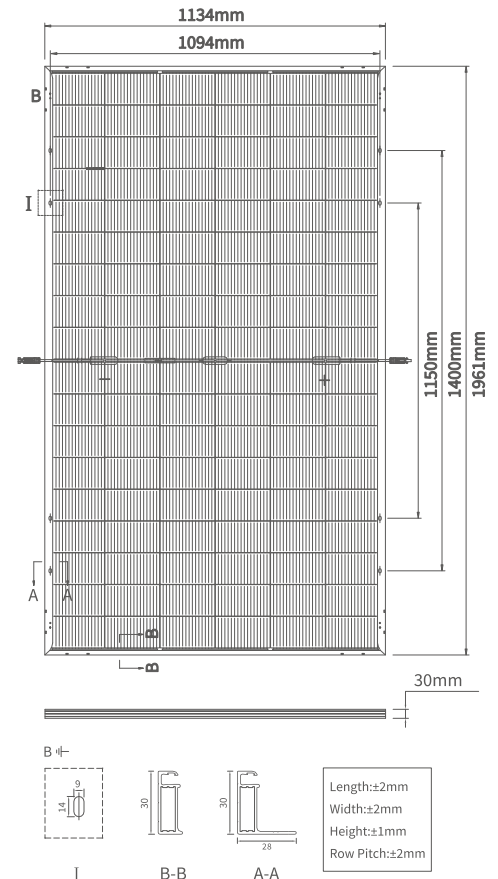
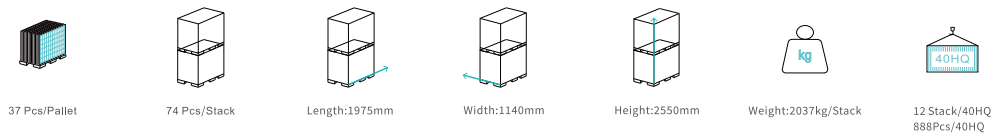
## REAR SIDE POWER GAIN(REFERENCE TO 520W FRONT SIDE)

Pmax/W	520	546	572	598	624	650	676
Pmax gain	0%	5%	10%	15%	20%	25%	30%
Voc/V	40.26	40.26	40.26	40.26	40.26	40.26	40.26
Isc/A	16.16	16.97	17.78	18.58	19.39	20.20	21.01
Vmp/V	33.67	33.67	33.67	33.67	33.67	33.67	33.67
Imp/A	15.44	16.21	16.98	17.76	18.53	19.30	20.07

## SPECIFICATIONS

Cell Type	N-type TOPCon Mono Half Cell	
No. of cells	108(6×9×2)	
Dimensions	1961*1134*30mm	
Weight	26.6kg	
Front Glass	2.0mm,Anti-Reflection Coating,High Transmission,Low Iron,Tempered Glass	
Back Glass	2.0mm,High Transmission,Low Iron,Tempered Glass	
Frame	Anodized Aluminium Alloy	
Junction Box	IP68,3diodes	
Connector	MC4 Compatible:PV-UL608 or others	Original:MC4-EVO2A
Cable Length (Including Connector)	4mm² Short Cable: (+)400/(-)200mm or Long Cable:(+)1200/(-)1200mm or Customized Length	

## PACKAGING INFORMATION



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

Ulica Solar reserves the right of final interpretation.

Version number: UL-1961-108DDGNBB-30-EN-V1.1