

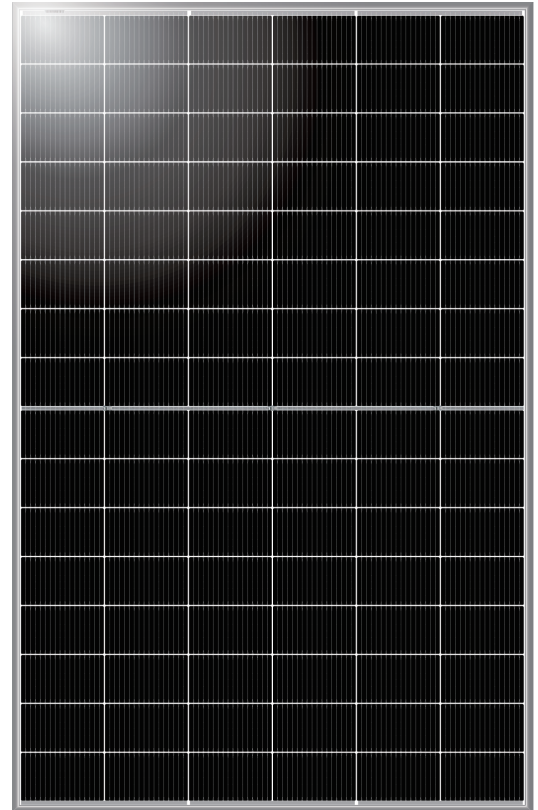
# Swan series

Double Glass BiFacial N-Type TOPCon Solar Module

# 430~455Watt

Model: UL-\*\*\*M-96DDGN

Maximum Efficiency: **22.77%**



### 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

2400 Pa wind load, 5400 Pa snow load



### Anti-PID(potential induced degradation)

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



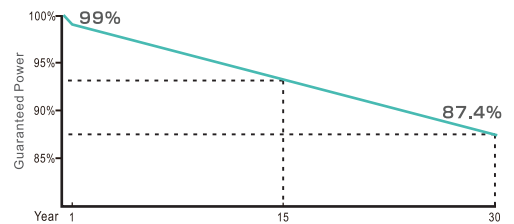
### Lower LCOE

Lower shading and resistive loss Lower temperature coefficient



### Widely Applied To Various Scenarios

Flexibly applied to roofs, ground surfaces, water surfaces, mountainous areas, and other diverse environments



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

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



CEC Listed



IEC 61215, IEC 61730

ISO 9001: 2015(Quality management systems)

ISO 14001: 2015 (Environmental management systems)

ISO45001: 2018 (Occupational health and safety)

UNI 9177 Ia CLASSE DI REAZIONE AL FUOCO:1



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## ELECTRICAL SPECIFICATIONS

Module Type	UL-430M-96DDGN		UL-435M-96DDGN		UL-440M-96DDGN		UL-445M-96DDGN		UL-450M-96DDGN		UL-455M-96DDGN		
	STC*	NOCT*	STC*	NOCT*	STC*	NOCT*	STC*	NOCT*	STC*	NOCT*	STC*	NOCT*	
Maximum Power(Pmax)	W	430	326	435	330	440	333	445	337	450	341	455	345
Maximum Power Voltage(Vmp)	V	29.08	26.75	29.21	26.87	29.35	27.00	29.48	27.12	29.61	27.24	29.75	27.37
Maximum Power Current(Imp)	A	14.79	12.18	14.89	12.27	14.99	12.35	15.09	12.43	15.20	12.52	15.30	12.60
Open-circuit Current(Voc)	V	34.56	31.45	34.70	31.58	34.84	31.70	35.00	31.85	35.14	31.98	35.29	32.11
Short-circuit Current(Isc)	A	15.90	12.83	15.95	12.87	16.00	12.91	16.05	12.95	16.10	12.99	16.15	13.03
Module Efficiency STC	%	21.52		21.77		22.02		22.27		22.52		22.77	

\*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

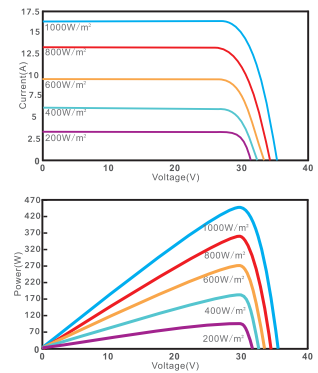
Operating Temperature	-40°C~85°C
Maximum system voltage	DC1500V(IEC)
Maximum series fuse rating	30A
Nominal operating cell temperature	43±2°C
Power tolerance	0~+5Watt

## 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 irradiances (reference to 450 W)

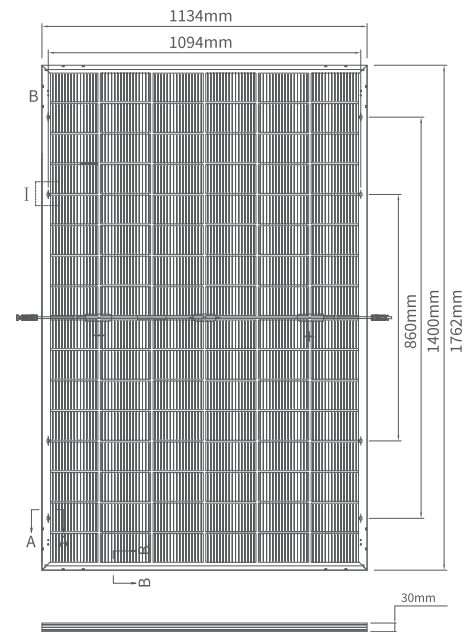


## REAR SIDE POWER GAIN(REFERENCE TO 450W FRONT SIDE)

Pmax/W	450	473	495	518	540	563	585
Pmax gain	0%	5%	10%	15%	20%	25%	30%
Voc/V	35.14	35.14	35.14	35.14	35.14	35.14	35.14
Isc/A	16.10	16.91	17.71	18.52	19.32	20.13	20.93
Vmp/V	29.61	29.61	29.61	29.61	29.61	29.61	29.61
Imp/A	15.20	15.96	16.72	17.48	18.24	18.99	19.75

## SPECIFICATIONS

Cell Type	N-type TOPCon Mono Half Cell	
No.of cells	96(6×8×2)	
Dimensions	1762*1134*30mm	
Weight	23.7kg	
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-EVO2
Cable Length (Including Connector)	4mm² Short Cable:(+)400/(-)200mm or Long Cable:(+)1200/(-)1200mm or Customized Length _____	



## PACKAGING INFORMATION



36 Pcs/Pallet



72 Pcs/Stack



Length:1775mm



Width:1130mm



Height:2540mm



Weight:1770kg/Stack



13 Stack/40HQ  
936 Pcs/40HQ

B-B



B-B



A-A

Length:±2mm  
Width:±2mm  
Height:±1mm  
Row Pitch:±2mm



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

Ulica Solar reserves the right of final interpretation.

Version number: UL-1762-96DDGNBB-30-EN-V2.0