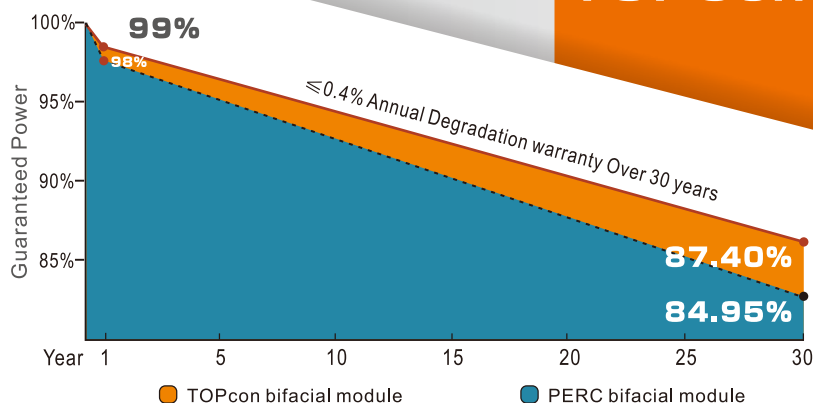


DOUBLE-GLASS BIFACIAL N-TYPE 445~455 Watt



TOPCon



Cutting Free Technology
Minimized micro-crack



Bifacial Mono Module
Capable of generating power at back side, at least 80% efficiency of the front side



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



Outstanding mechanical load resistance
2400 Pa wind load, 5400 Pa snow load



15 15-year product warranty
30 30-year linear power output



CEC Listed



IEC 61215, IEC 61730
ISO 9001: 2015 (Quality management systems)
ISO 14001: 2015 (Environmental management systems)
ISO 45001: 2018 (Occupational health and safety)
UNI 9177 la CLASSE DI REAZIONE AL FUOCO: 1



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TOPCon(N TYPE) 445~455Watt

ELECTRICAL SPECIFICATIONS

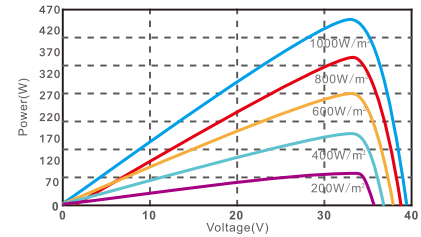
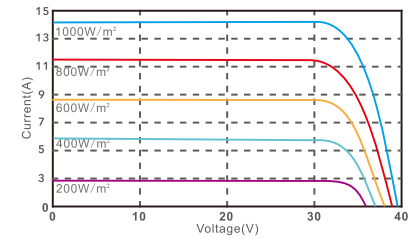
Module Type		UL-445M-108BDGN		UL-450M-108BDGN		UL-455M-108BDGN	
		STC* NOCT*		STC* NOCT*		STC* NOCT*	
Maximum Power (Pmax)	W	445	337	450	341	455	345
Maximum Power Voltage (Vmp)	V	33.02	30.38	33.22	30.56	33.42	30.75
Maximum Power Current (Imp)	A	13.48	11.10	13.55	11.16	13.61	11.21
Open-circuit Voltage (Voc)	V	39.58	36.02	39.78	36.20	39.98	36.38
Short-circuit Current (Isc)	A	14.30	11.53	14.38	11.60	14.45	11.66
Module Efficiency STC	%	22.27		22.52		22.77	
Operating Temperature				-40°C~85°C			
Maximum system voltage				DC1500V(IEC)			
Maximum series fuse rating				30A			
Power tolerance				0~+5Watt			
Temperature coefficients of Pmax				-0.29%/°C			
Temperature coefficients of Voc				-0.25%/°C			
Temperature coefficients of Isc				0.046%/°C			
Nominal operating cell temperature (NOCT)				43±2°C			

*STC : Cell temperature: 25°C, Irradiance: 1000 W/m², Air mass: 1.5G

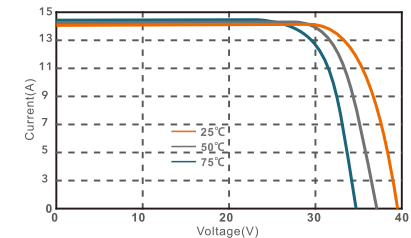
*NOCT : Air temperature: 20°C, Irradiance: 800 W/m², Air mass: 1.5G, Wind speed: 1 m/s

I-V CURVE

I-V characteristics at different irradiances (reference to 450W)



I-V characteristics at different temperature

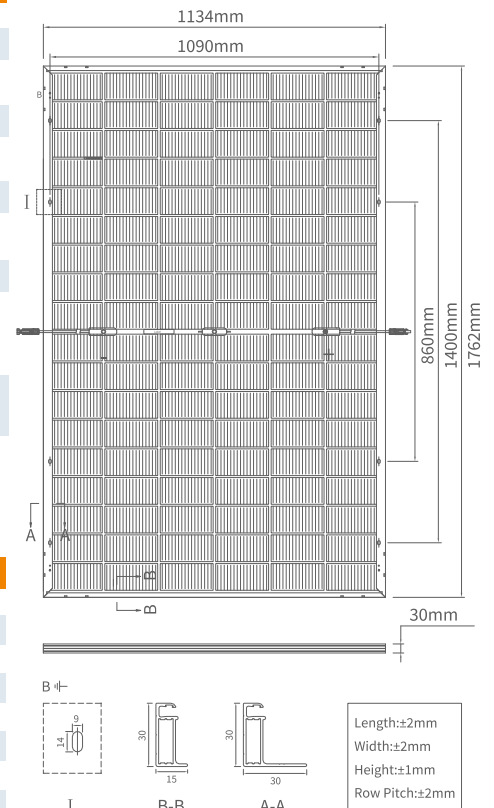


SPECIFICATIONS

Cell Type	N type Mono-crystalline		
No. of cells	108(6×9×2)		
Dimensions	1762*1134*30mm		
Weight	24.0kg		
Glass	2.0mm+2.0mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass		
Junction Box	IP68, 3 diodes		
Connector	MC4 Compatible		
Cable Length (Including Connector)	4mm² Landscape: (+)1200mm/(-)1200mm or Customized Length		
Packaging Configuration	Two Box=One Pallet 36pcs/Box, 72pcs/Pallet, 936pcs/40HQ Container		

Electrical characteristics with different rear side power gain (reference to 450W front)

Pmax/W	Voc/V	Isc/A	Vmp/V	Imp/A	Pmax gain
450	39.78	14.38	33.22	13.55	0%
473	39.78	15.10	33.22	14.22	5%
495	39.78	15.82	33.22	14.90	10%
518	39.78	16.54	33.22	15.58	15%
540	39.78	17.26	33.22	16.26	20%
563	39.78	17.98	33.22	16.93	25%
585	39.78	18.69	33.22	17.61	30%



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

Ulica Solar reserves the right of final interpretation.

Version No.: UL-1762-108BDGNBBC-30-EN-V1.2