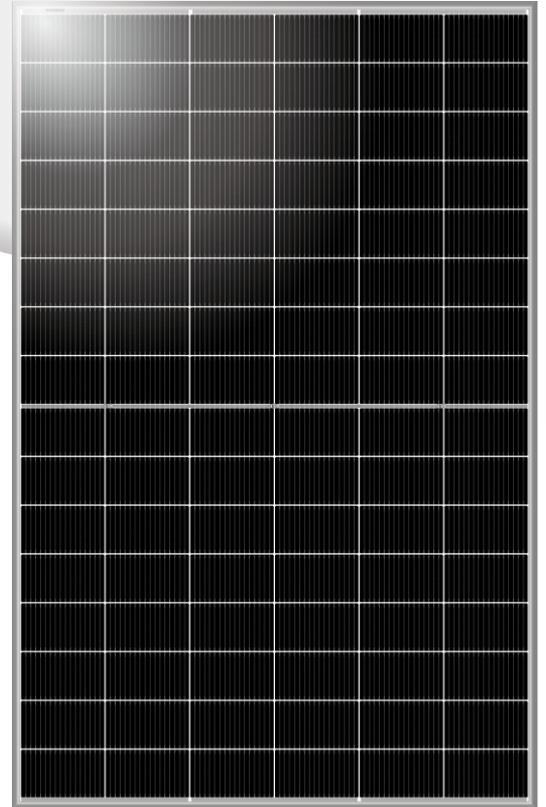
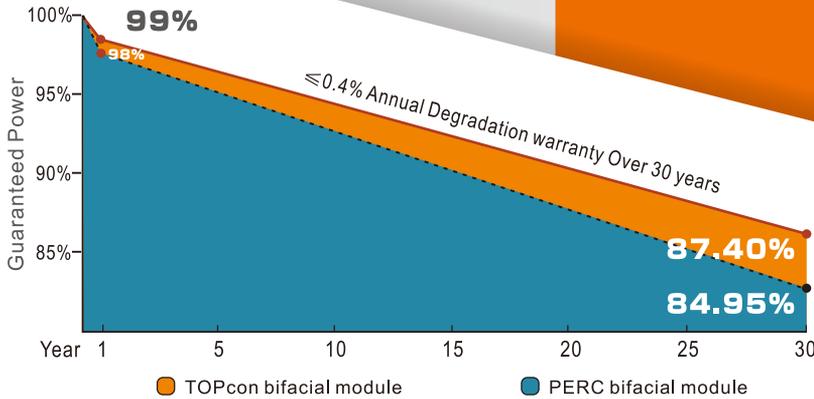


DOUBLE-GLASS BIFACIAL N-TYPE 445~455 Watt



TOPCon



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



Great Durability against extreme conditions

Passed salt mist corrosion test, ammonia corrosion test dust & sand test, fire test, all certified by TÜV



Lower LCOE

Lower shading and resistive loss
Lower temperature coefficient



Outstanding mechanical load resistance

2400 Pa wind load, 5400 Pa snow load



15-year product warranty

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

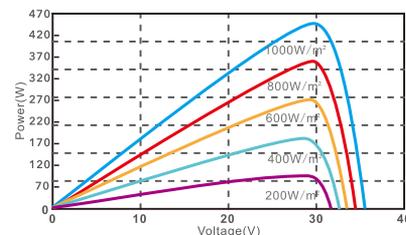
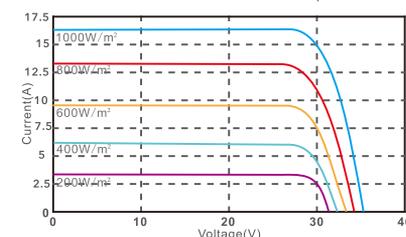
Module Type	UL-445M-96DDGN		UL-450M-96DDGN		UL-455M-96DDGN		
	STC*	NOCT*	STC*	NOCT*	STC*	NOCT*	
Maximum Power (Pmax)	W	445	337	450	341	455	345
Maximum Power Voltage (Vmp)	V	29.48	27.12	29.61	27.24	29.75	27.37
Maximum Power Current (Imp)	A	15.09	12.43	15.20	12.52	15.30	12.60
Open-circuit Voltage (Voc)	V	35.00	31.85	35.14	31.98	35.29	32.11
Short-circuit Current (Isc)	A	16.05	12.95	16.10	12.99	16.15	13.03
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

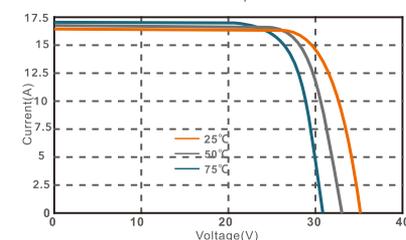
*NOCT : Air temperature: 20°C, Irradiance: 800 W/m², Air mass: 1.5G, Wind speed: 1 m/s

I-V CURVE

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

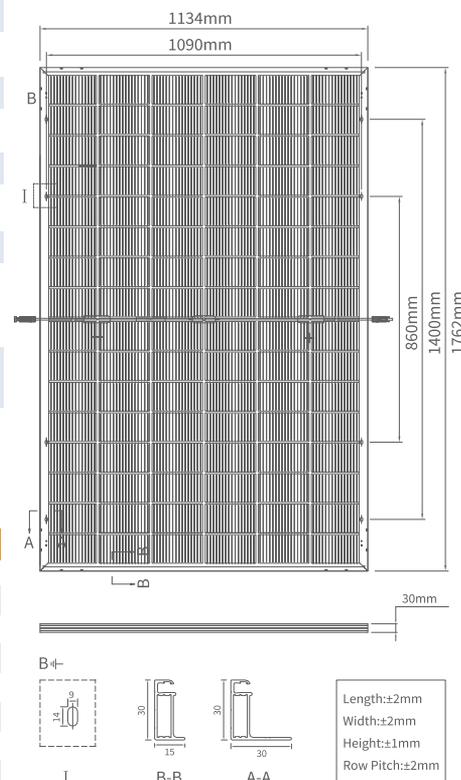


I-V characteristics at different temperature



SPECIFICATIONS

Cell Type	N type Mono-crystalline	
No. of cells	96(6×8×2)	
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)	4mm ² 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	35.14	16.10	29.61	15.20	0%
473	35.14	16.91	29.61	15.96	5%
495	35.14	17.71	29.61	16.72	10%
518	35.14	18.52	29.61	17.48	15%
540	35.14	19.32	29.61	18.24	20%
563	35.14	20.13	29.61	18.99	25%
585	35.14	20.93	29.61	19.75	30%



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

Ulica Solar reserves the right of final interpretation.

Version No.: UL-1762-96DDGNBBC-30-EN-V1.2