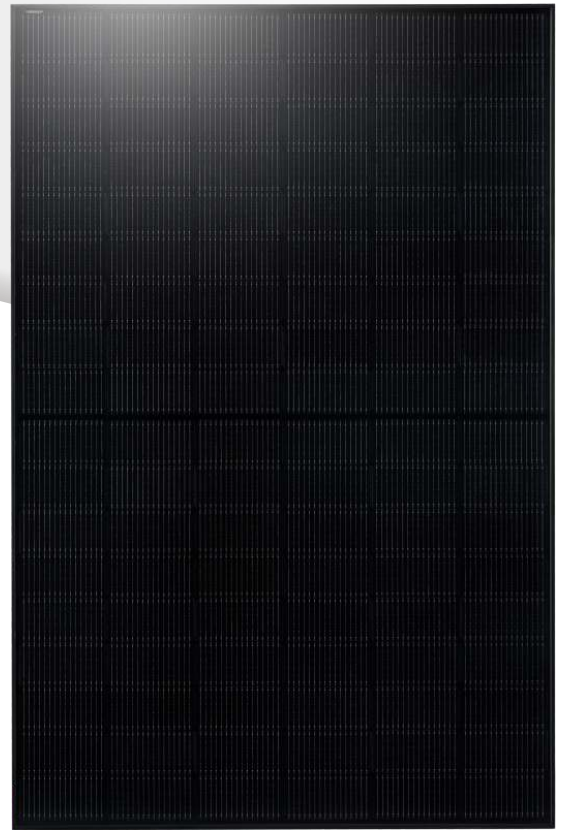
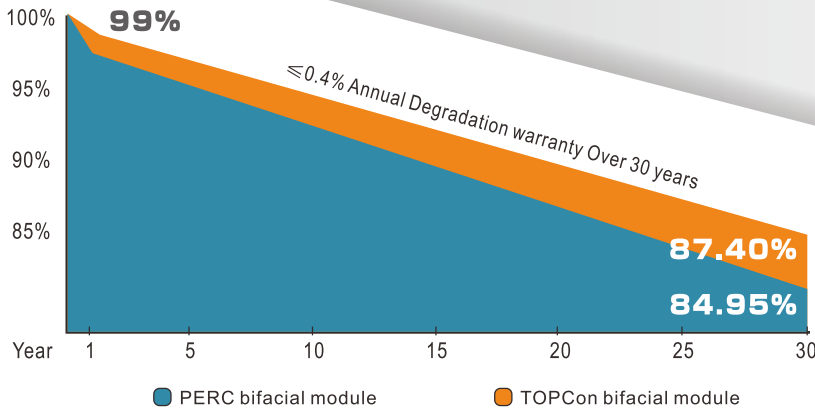


Black Jade Series

DOUBLE-GLASS BIFACIAL N-TYPE MODULE

435~450 W



Cutting Free Technology
Minimized micro-crack



Anti-PID (potential induced degradation)
Passed anti-PID test under 85% damp heat
85% relative humidity for 96 hours



Higher Power Output
Lower shading and resistive loss



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



25 25-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 Ia CLASSE DI REAZIONE AL FUOCO:1



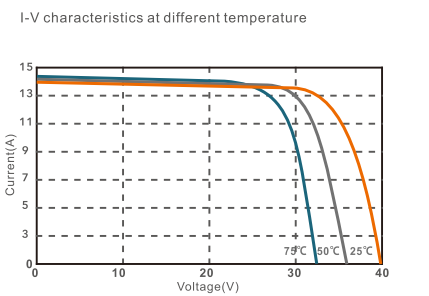
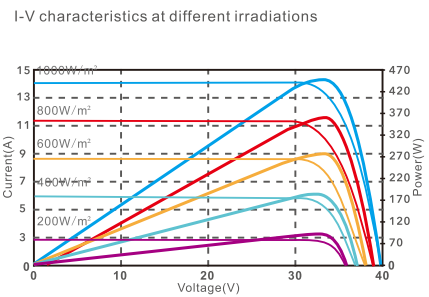
TOPCON(N TYPE)435~450Watt



ELECTRICAL SPECIFICATIONS

Module Type	UL-435M-108BDGN		UL-440M-108BDGN		UL-445M-108BDGN		UL-450M-108BDGN		
	STC*	NOCT*	STC*	NOCT*	STC*	NOCT*	STC*	NOCT*	
Maximum Power (Pmax)	W	435	330	440	333	445	337	450	341
Maximum Power Voltage (Vmp)	V	32.61	30.00	32.81	30.19	33.02	30.38	33.22	30.56
Maximum Power Current (Imp)	A	13.34	10.99	13.41	11.05	13.48	11.10	13.55	11.16
Open-circuit Voltage (Voc)	V	39.18	35.65	39.38	35.84	39.58	36.02	39.78	36.20
Short-circuit Current (Isc)	A	13.80	11.13	13.86	11.18	13.93	11.24	14.00	11.29
Module Efficiency STC	%	21.77		22.02		22.27		22.52	
Operating Temperature	-40°C~85°C								
Maximum system voltage	DC1500V(IEC)								
Maximum series fuse rating	25 A								
Power tolerance	0~+5 Watt								
Temperature coefficients of Pmax	-0.29%/°C								
Temperature coefficients of Voc	-0.250%/°C								
Temperature coefficients of Isc	0.046%/°C								
Nominal operating cell temperature (NOCT)	43±2°C								

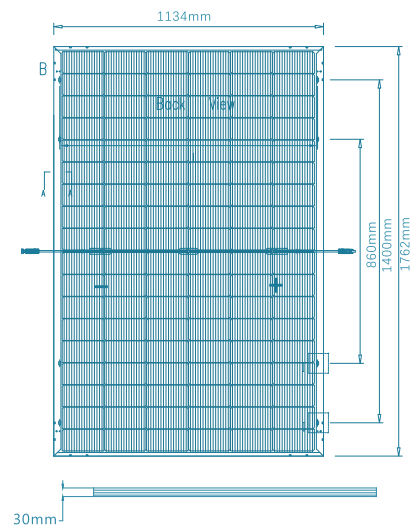
I-V CURVE[440W]



*STC : Cell temperature: 25°C, Irradiance: 1000 W/m², Air mass: 1.5G
 *NOTC : Air temperature: 20°C, Irradiance: 800 W/m², Air mass: 1.5G, Wind speed: 1 m/s

SPECIFICATIONS

Cell Type	182.2×94mm N type Mono-crystalline
No. of cells	108 (6×9×2)
Dimensions	1762*1134*30mm
Weight	24.5 Kg
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: (+) 1100mm/(-) 1100 mm
Packaging Configuration	Two Box=One pallet 36pcs/Box, 72pcs/Pallet, 936pcs/40HQ Container



Electrical characteristics with different rear side power gain (reference to 440 W front)

Pmax/W	Voc/V	Isc/A	Vmp/V	Imp/A	Pmax gain
440	39.38	13.86	32.81	13.41	0
462	39.40	14.55	32.80	14.08	5%
484	39.40	15.25	32.80	14.75	10%
506	39.40	15.94	32.80	15.42	15%
528	39.40	16.63	32.80	16.09	20%
550	39.40	17.33	32.80	16.76	25%
572	39.40	18.02	32.80	17.43	30%

