



UTICA BIFACIAL BLACK PHOTON 450

BIFACIAL MODULE WITH DUAL GLASS

P-Type

Positive power tolerance of 0~+3%

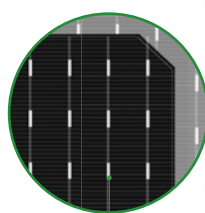
IEC61215(2016), IEC61730(2016)

ISO9001:2015: Quality Management System

ISO14001:2015: Environment Management System

ISO45001:2018

Occupational health and safety management systems



Bifacial Technology

Key Features



Multi Busbar Technology

Better light trapping and current collection to improve module power output and reliability.



Longer Life-time Power Yield

0.45% annual power degradation and 30 year linear power warranty.



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.



Low-light Performance

Advanced glass and cell surface textured design ensure excellent performance in low-light environment



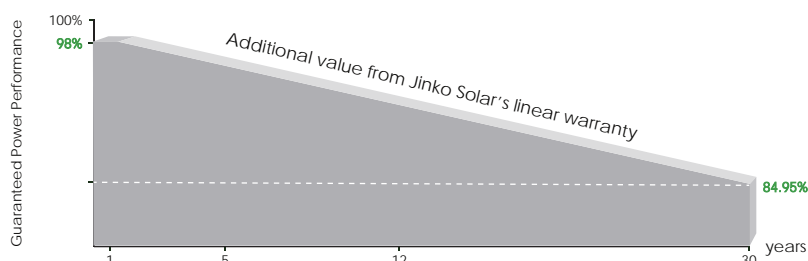
Higher Power Output

Module power increases 5-25% generally, bringing significantly lower LCOE and higher IRR.



Continuous Quality Assurance

LINEAR PERFORMANCE WARRANTY



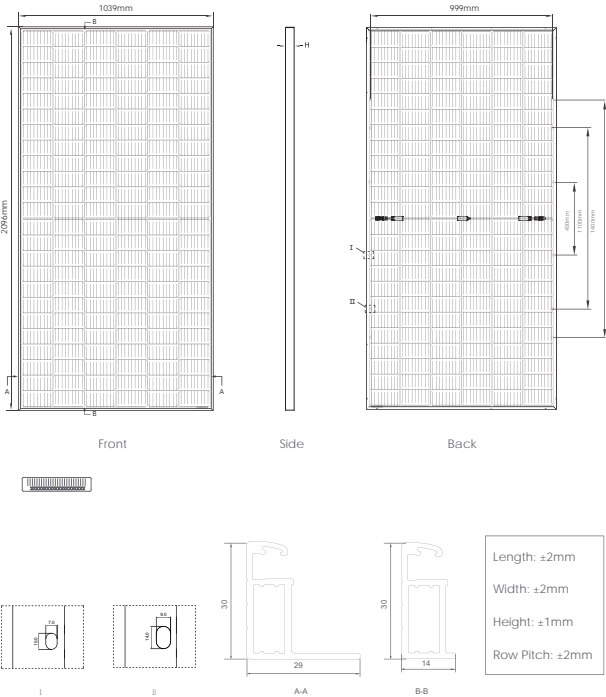
12 Year Product Warranty

30 Year Linear Power Warranty

0.45% Annual Degradation Over 30 years

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Engineering Drawings

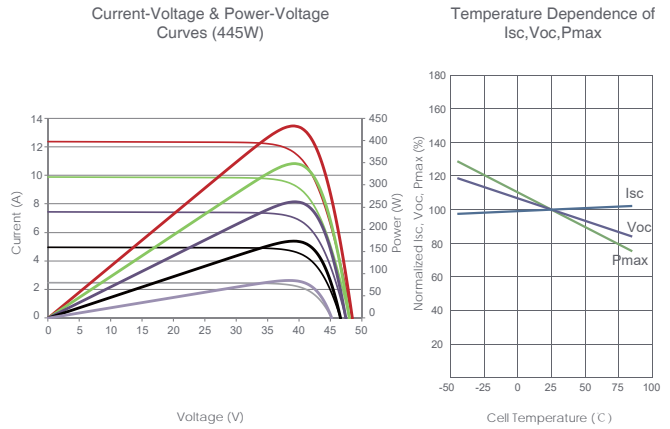


Packaging Configuration

(Two pallets = One stack)

35pcs/pallets, 70pcs/stack, 770pcs/ 40'HQ Container

Electrical Performance & Temperature Dependence



Mechanical Characteristics

Cell Type	P type Mono-crystalline
No. of cells	144 (6×24)
Dimensions	2096×1039×30mm (82.52×40.91×1.18 inch)
Weight	28.1kg (61.95 lbs)
Front Glass	2.0mm, Anti-Reflection Coating
Back Glass	2.0mm, heat strengthened glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Output Cables	TUV 1×4.0mm' (+): 250mm , (-): 150mm or Customized Length

SPECIFICATIONS

Module Type	UTICA BIFACIAL BLACK PHOTON 450	
	STC	NOCT
Maximum Power (Pmax)	450Wp	335Wp
Maximum Power Voltage (Vmp)	41.40V	38.22 V
Maximum Power Current (Imp)	10.87A	8.76A
Open-circuit Voltage (Voc)	49.56V	46.68V
Short-circuit Current (Isc)	11.56A	9.34A
Module Efficiency STC (%)	20.7%	
Operating Temperature(°C)	-40°C~+85°C	
Maximum System Voltage	1500VDC (IEC)	
Maximum Series Fuse Rating	25A	
Power Tolerance	0~+3%	
Temperature Coefficients of Pmax	-0.35%/°C	
Temperature Coefficients of Voc	-0.29%/°C	
Temperature Coefficients of Isc	0.048%/°C	
Nominal Operating Cell Temperature (NOCT)	45±2°C	
Refer. Bifacial Factor	70±5%	

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

5%	Maximum Power (Pmax)	473Wp
	Module Efficiency STC (%)	21.72%
15%	Maximum Power (Pmax)	518Wp
	Module Efficiency STC (%)	23.79%
25%	Maximum Power (Pmax)	563Wp
	Module Efficiency STC (%)	25.85%

*STC: Irradiance 1000W/m²

Cell Temperature 25°C

AM=1.5

NOCT: Irradiance 800W/m²

Ambient Temperature 20°C

AM=1.5

Wind Speed 1m/s

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