



EA-ZLK-BA-144 SERIES

Energy America 9BB Half-Cell Bifacial Light-Weight Double Glass Monocrystalline PERC PV Module

430W | 435W | 440W | 445W | 450W | 455W



Excellent Cells Efficiency

9BB technology decreases the distance between bus bars and finger grid line which is a benefit to power increase



Better Weak Illumination Response

More power output in weak light condition, such as haze, clouds, and early morning



Anti PID

Limited power degradation caused by PID effect is guaranteed under strict testing condition for mass production



High Wind & Snow Resistance

5400 Pa Snow Load | 2400 Pa Wind Load



30 Years Power Warranty

After 30 years our solar panel keeps at least 80% of its initial power output



Bifacial Technology

Enables additional energy harvesting from rear side (up to 25%)



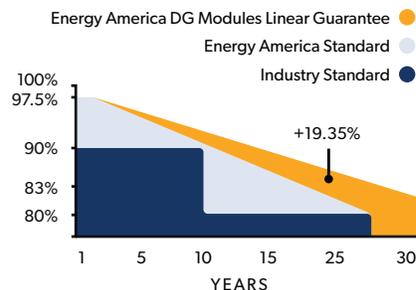
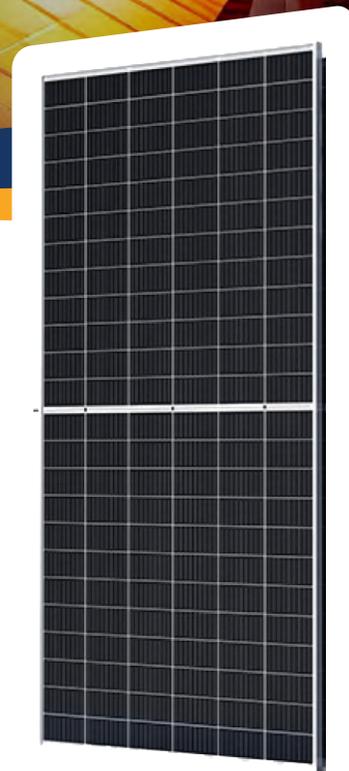
Durable Materials

Advanced manufacturing technology minimizes chances of micro-cracks resulting from impact or heat



Ruggedized Construction

Built to withstand real-world conditions. Rated for heavy snow loads up to 5400 Pa and wind loads up to 2400 Pa



30 YEAR
Product Guarantee

30 YEAR
Output Guarantee

0.5 PERCENT
Annual Degradation Over 30 Years



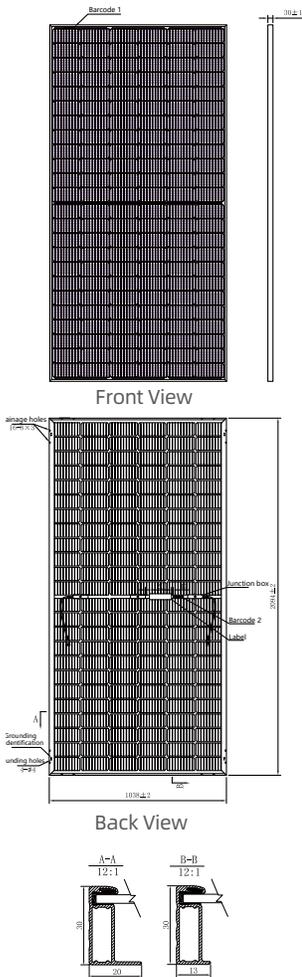
Since 2013, EA products have been constantly contributing clean energy to our planet. As a globally recognized innovator, our success in production, technological development, quality control, and product performance distinguishes EA as one of the most reliable solar companies in the world. Designed in the United States for global applications, reliability content and industry protection leading at 30 years product and power warranty. Compatible countries include Northern & Latin America, Asia South Pacific, Middle East, African Region, and Indian Territory.

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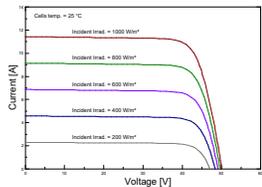
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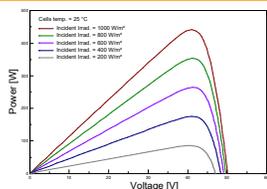
DIMENSIONS (MM)



I-V CURVES OF PV MODULE (440W)



P-V CURVES OF PV MODULE (440W)



ELECTRICAL CHARACTERISTICS | STC*

	430	435	440	445	450	455
Nominal Power Watt Pmax (W)**	430	435	440	445	450	455
Power Output Tolerance Pmax (%)	0~+3	0~+3	0~+3	0~+3	0~+3	0~+3
Maximum Power Voltage Vmp (V)	41.30	41.50	41.70	41.90	42.10	42.30
Maximum Power Current Imp (A)	10.42	10.49	10.56	10.63	10.69	10.76
Open Circuit Voltage Voc (V)	49.70	49.90	50.10	50.30	50.50	50.70
Short Circuit Current Isc (A)	11.30	11.37	11.44	11.51	11.58	11.65
Module Efficiency (%)	19.78	20.01	20.24	20.47	20.70	20.93

*STC (Standard Test Condition): Irradiance 1000W/m², Module Temperature 25°, AM 1.5 | ** Measuring tolerance: ±3%

ELECTRICAL CHARACTERISTICS | NMOT*

Maximum Power Pmax (Wp)	322.60	326.30	329.90	333.60	337.10	340.80
Maximum Power Voltage Vmpp (V)	37.90	38.00	38.20	38.40	38.60	38.70
Maximum Power Current Imp (A)	8.52	8.58	8.63	8.69	8.74	8.80
Open Circuit Voltage Voc (V)	46.40	46.60	46.80	46.90	47.10	47.30
Short Circuit Current Isc (A)	9.13	9.18	9.24	9.30	9.35	9.41

*NMOT(Nominal module operating temperature):Irradiance 800W/m²,Ambient Temperature 20°, AM 1.5, Wind Speed 1m/s

ELECTRICAL CHARACTERISTICS

WITH 25% REAR SIDE POWER GAIN

Front Power Pmax/W	430	435	440	445	450	455
Total Power Pmax/W	538	544	550	556	563	569
Vmp/V(Total)	41.40	41.60	41.80	42.00	42.20	42.40
Imp/A(Total)	13.00	13.08	13.16	13.24	13.33	13.41
SVoc/V(Total)	49.80	50.00	50.20	50.40	50.60	50.80
Isc/A(Total)	13.65	13.73	13.81	13.89	14.44	14.52

MECHANICAL DATA

Solar Cells	Mono PERC
Cells Orientation	144 (6x24)
Module Dimension	2094x1038x30 mm (With Frame)
Weight	28 kg
Glass	2.0 mm+2.0 mm, High Transmission, AR Coated Heat Strengthened Glass
Junction Box	IP 68, 3 diodes
Cables	4 mm ² , 350 mm
Connectors	MC4-compatible

TEMPERATURE RATING

NMOT	44°C±2°C
Temperature Coefficient of Pmax	-0.36%/°C
Temperature Coefficient of Voc	-0.29%/°C
Temperature Coefficient of Isc	0.05%/°C
Refer.Bifacial Factor	70±5%

WORKING CONDITIONS

Maximum System Voltage	1500 V DC
Operating Temperature	-40°C~+85°C
Maximum Series Fuse	25 A
Maximum Load (snow/wind)	5400 Pa / 2400 Pa

PACKAGING CONFIGURATION

Piece/Box	36
Piece/Container (40'HQ)	792
Piece/Container (with additional small package)	/

Please read safety and installation instructions before using this product. Subject to change without prior notice.