Mono Poly Solutions

COULEE BIFACIAL SOLAR MODULE

Mono PERC Half-cut Cell Series

72 BIFACIAL
MONOCRYSTALLINE PERC CELL

435-455W
POWER OUTPUT RANGE

20.9%
MAXIMUM EFFICIENCY

0 - +3%
POSITIVE POWER TOLERANCE

9BB Low LID
Bifacial PERC

Design of the Coulee Bifacial Ultra
The purpose of Dual Glass was to design a new concept of solar module featuring a significantly improved reliability compared to the conventional design without losing the advantages of traditional modules.

Coulee Bifacial Ultra is the top performance reference solar module series, based on the Low LID Bifacial PERC with Half-cut technology. The bifacial technology enables additional energy harvesting from rear side (up to 25%), and thanks to the half-cut technology, the cell internal resistance is reduced, which provides an additional module power even while shading, cloudy weather, and in low light conditions.

Product Certificates

IEC/EN 61215, IEC/EN 61730

TÜV NORD CE

CAUTIONS:
READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

Ideal For Large Scale Installations

- High power footprint reduces installation time and BOS costs
- Up to 1500VDC system voltage

Maximum Limited Space

- Up to 209W/m² power density

Highly Reliable Due to Stringent Quality Control

- Over 30 in-house tests (UV, TC, HF, etc.)
- In-house testing goes well beyond certification requirements
- Increased module robustness to minimize micro-cracks
- 100% EL double inspection

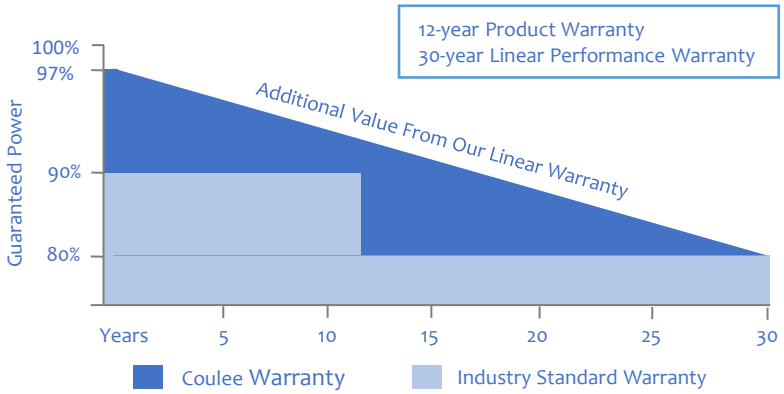
Increased Value

- Higher maximum system voltage reduces BOS costs
- 0.5% annual degradation
- More energy production at higher temperatures

Durability Against Extreme Environmental Conditions

- Module coating resistant to sand, acid, and alkali

Linear Performance Warranty



Mechanical Parameters

Glass (Dual)	2.0mm Coated Tempered Glass
Junction Box	IP68, Three Diodes
Output Cable	4mm², Landscape: 1300mm, Portrait: N 150mm/P 300mm
Cell Orientation	144 (6×24)
Frame	Anodized Aluminum Alloy (OR Frameless)
Weight	27.6kg
Dimension	2094mm × 1038mm × 35mm

Operating Parameters

Max. System Voltage	1500VDC (IEC)
Max. System Fuse Rating	25A
Operating Temperature	-40 ~ +85℃
Safety Class	Class Ⅱ

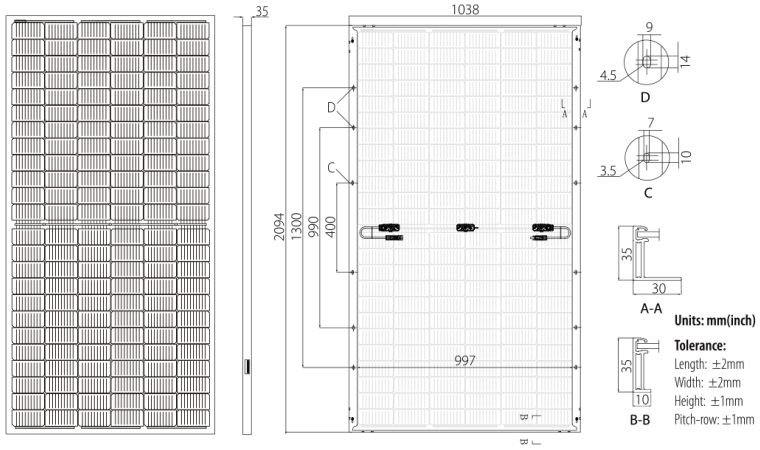
Temperature Ratings (STC)

Temperature Coefficient of Pmax	-0.370%/℃
Temperature Coefficient of Voc	-0.300%/℃
Temperature Coefficient of Isc	-0.060 %/℃
NOTC	(45 ± 2) ℃

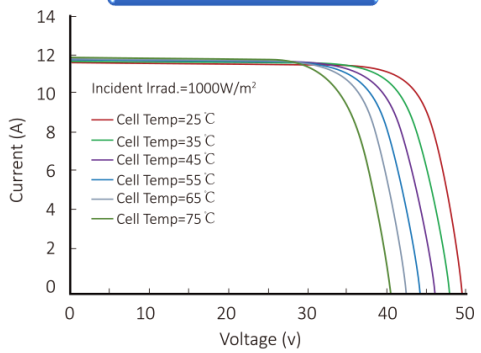
Mechanical Loading

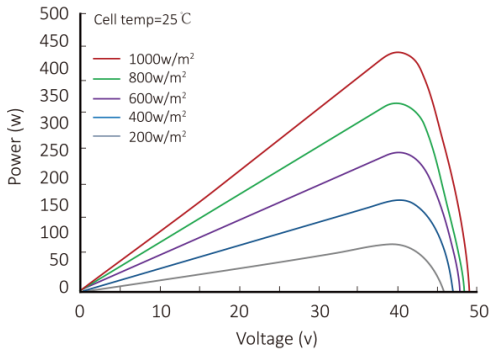
Front Side Max. Static Loading	5400Pa
Rear Side Max. Static Loading	2400Pa
Hailstone Test	25mm, 23m/s

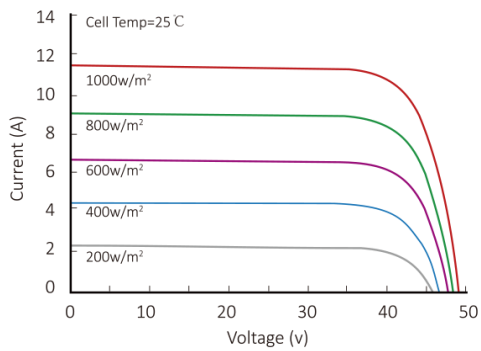
Mechanical Diagrams



IV Curves – 440W







Electrical Parameters at STC

Module type	CLM-450M-72 Series (Dual Glass)				
Rated Max. Power (Pmax/W)	435	440	445	450	455
Maximum Power Voltage (Vmp/V)	40.8	41.0	41.2	41.4	41.6
Open-circuit Voltage (Voc/V)	49.1	49.2	49.4	49.6	49.8
Maximum Power Current (Imp/A)	10.66	10.73	10.80	10.87	10.93
Short-circuit Current (Isc/A)	11.36	11.45	11.52	11.58	11.65
Module Efficiency m (%)	20.0	20.2	20.5	20.7	20.9
STC: Irradiance 1000W/m, Cell Temperature 25℃, AM = 1.5					

Electrical Parameters with Different Rear Side Power Gain (445W Front)

Pmax/W	Voc/V	Isc/A	Vmp/V	Imp/A	Pmax Gain
467	49.4	12.09	41.2	11.34	5%
490	49.4	12.67	41.2	11.88	10%
512	49.5	13.24	41.3	12.42	15%
534	49.5	13.82	41.3	12.96	20%
556	49.5	14.40	41.3	13.50	25%

Packaging Configuration

Pieces Per Pallet: 66 | Pallets Per 40HQ: 11 | Pieces Per 40HQ: 726

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