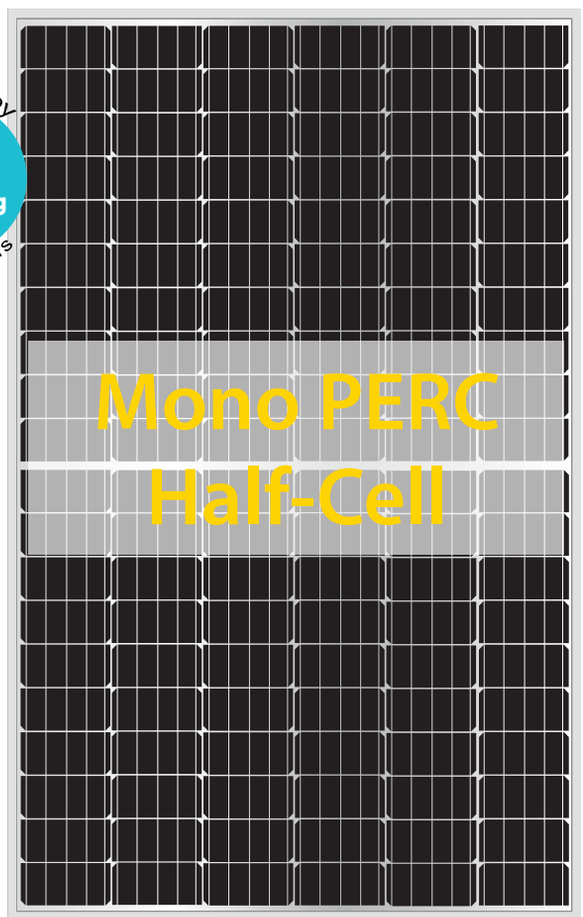
ABiSOLAR

AB-60MHC

305 W
310 W
315 W

120 (6×20) 156.75×78.375mm 5BB



Powered by Tier 1 Bloomberg NEW ENERGY FINANCE Manufacturers

- Higher output, efficiency & ROI due to reduced "Cell To Module" loss.
- 6% Less Internal Power Loss due to shorter ribbon length.
- 50% Higher Yield due to better shading response
- Twice Less Mismatch Loss due to double internal strings of cells.

WHY ABI-SOLAR?

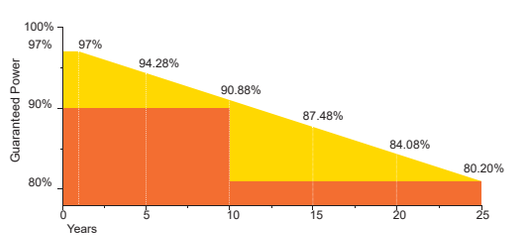
- Manufacturing and assembly of PV modules are performed only on East Asian enterprises from **Bloomberg Tier 1** list.
- PV modules are tested and demonstrate high reliability in various climatic conditions and in a wide range of insolation.
- High efficiency and return on investment guaranteed around the world.
- Modules sertified by global testing facilities: IEC61215, IEC61730, CE, ROHS, TÜV.
- Manufacturing with international quality standarts and environment management system: ISO9001 and ISO14001.
- Maximum power and performance at minimal price ensure fast return of investments.
- Compatability with both on-grid and off-grid PV systems garateed.

10 YEAR
Manufacturing Warranty

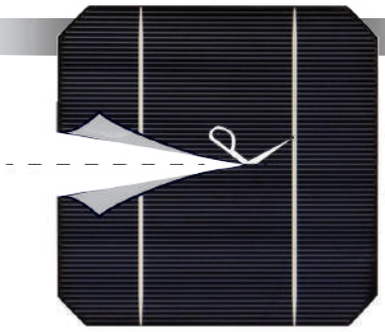
12 YEAR WARRANTY
90% Power Output

25 YEAR WARRANTY
80% Power Output

INDUSTRY-LEADING WARANTY BASED ON NOMINAL POWER



10-year Warranty for Materials and Processing
25-year Warranty for Extra Linear Power Output
(1st year ≤ 3%, 2nd~25th years ≤ 0.7% / year)



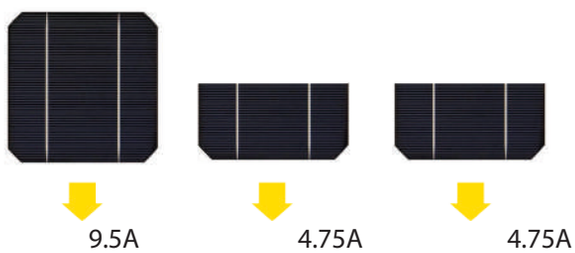
Half Cell PV Modules. What does it mean?

Half Cell module consists of conventional polycrystalline silicon cells cut in half.
So 60-cells standard PV module becomes 120-cells half-cell PV module.

Why Do We Cut the Cells?

Shorter Bus Bars

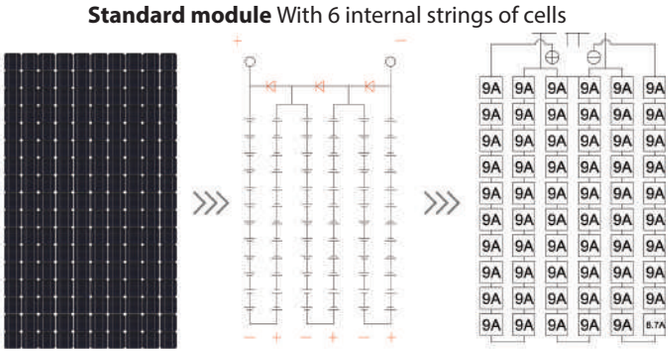
The shorter conductor, the less amperage, the lower resistance. Lower resistance reduces power loss up to 6% and increase the output power from 5W to 8W.



More Strings

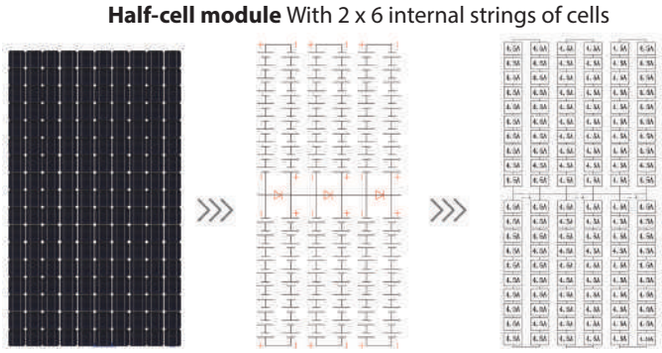
Instead of 6 strings of cells in conventional 60-cells module, half-cell module includes 12 strings. It deals with the performance mismatch happened between cells caused by shading, cells' initial heterogeneity and uneven degradation.

Standard module With 6 internal strings of cells



Module current output is **8.7A**, current mismatch in series is **0.3A (9,7W)**.

Half-cell module With 2 x 6 internal strings of cells



Module current output is **4.5+4.35=8.75A**, current mismatch in series is **0.15A (4,85W)**.

Smaller Cells

The twice smaller cells generate smaller currents that help reduce "Cell To Module" loss. Smaller cell also means twice less damage from micro-cracks in the cell and stains on the glass for the hole module.

Half-Cell PERC Module	standard module
Performance & Efficiency	
Efficiency upto **19.25%**	Efficiency **16.5%**
Overheating	
Cell's operating current 4.92A 16.5% lower risk of hot-spots due to lower temperature in partially shaded cells	Cell's operating current 9.5A Higher risk of hot-spots in partially shaded cells

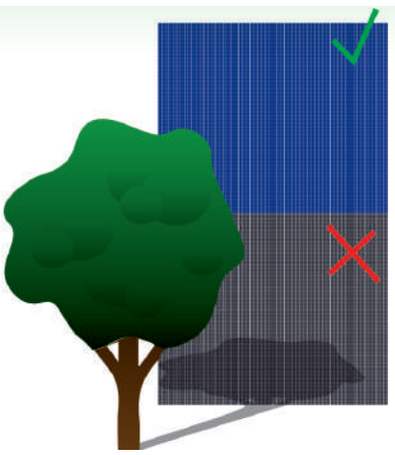
How does it improve our modules?

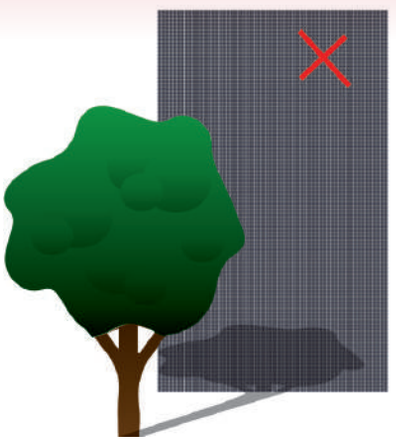
Compared to standard PV modules our new half-cell modules are more efficient, have higher performance and less prone to overheating. They better cope with partial shading and are less vulnerable to point mechanical damage and dirt.

Half-Cell PERC Module

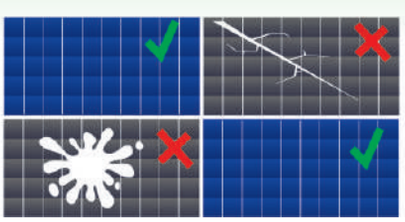
standard module

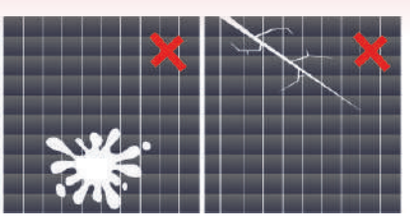
Partial Shading



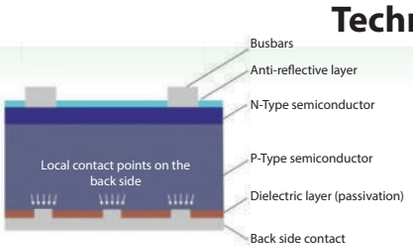


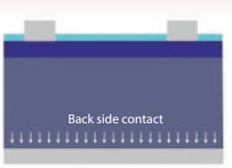
Point mechanical damage and dirt



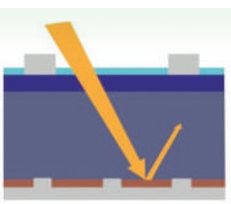


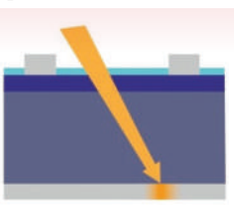
Technology PERC



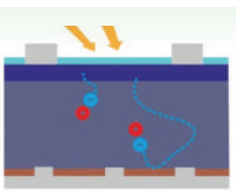


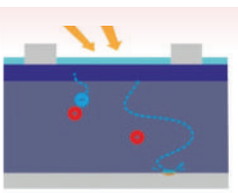
Increasing the absorption capacity of the photocell





Reflection of electrons in the p-n transition zone

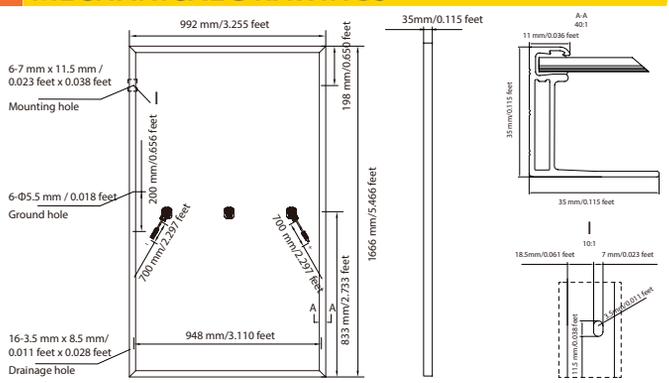




And the last, but not least, half-cell PV modules has higher ROI!

AB-60MHC

MECHANICAL DRAWINGS



MECHANICAL SPECIFICATIONS

Cell type	Mono crystalline
Dimensions (A×B×C)	1666x 992x35 mm
Weight	18.6 kg
Frame	Aluminium, silver anodized
Junction	IP67
Connector	MC4 Compatible
Front glass thickness	3.2 mm / 0.13 in
Output cables	4.0 mm^2,cable length: 700 mm
Maximum snow load (IEC 61215)	6000Pa

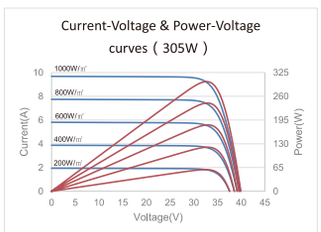
ELECTRICAL CHARACTERISTICS (STC)

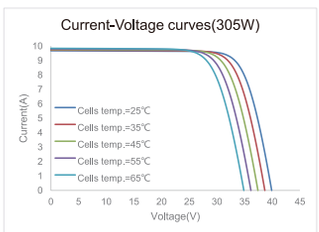
	AB305-60MHC	AB310-60MHC	AB315-60MHC
Maximum Power (Pmax)	305	310	315
Shot Circuit Current (Isc)	9,73	9,77	9,83
Open Circuit Voltage (Voc)	39,84	39,99	40,24
Maximum Power Current (Impp)	9,26	9,35	9,44
Maximum Power Voltage (Vmpp)	32,94	33,15	33,35
Module Efficiency	18,5	18,8	19,1
Power Tolerance		(+/-3%)	
Maximum Series Fuse		15A	
Maximum System Voltage		1500 (TÜV)	

NOCT

	AB305-60MHC	AB310-60MHC	AB315-60MHC
Maximum Power (Pmax)	224,1	227,8	231,5
Shot Circuit Current (Isc)	7,83	7,86	7,91
Open Circuit Voltage (Voc)	36,96	37,10	37,33
Maximum Power Current (Impp)	7,39	7,46	7,53
Maximum Power Voltage (Vmpp)	30,34	30,54	30,74

STC irradiance: 1000 W/m^2 module temperature: +25 °C AM=1.5 **NOCT** irradiance: 800 W/m^2 module temperature: +20 °C AM=1.5



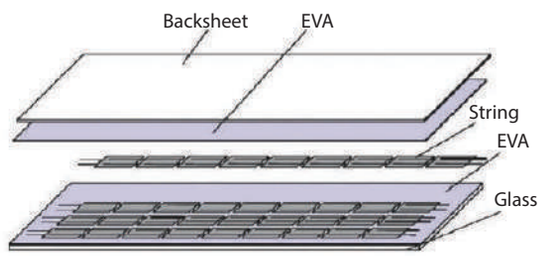


TEMPERATURE CHARACTERISTICS

Nominal Operating Cell Temperature (NOCT)	46±2 °C
Temperature Coefficient of Pmax	-0.380 %/°C
Temperature Coefficient of Voc	-0.284 %/°C
Temperature Coefficient of Isc	0.042 % /°C
Operating Temperature	-40~+85 °C

PACKING CONFIGURATION

	1666x 992x35 mm
Container	40'GP
Pieces per Pallet	31
Weight of packing unit	616 kg / 1358 lbs
Pieces per Container	868



QUALIFICATIONS AND CERTIFICATES

Specifications are subject to change without prior notification