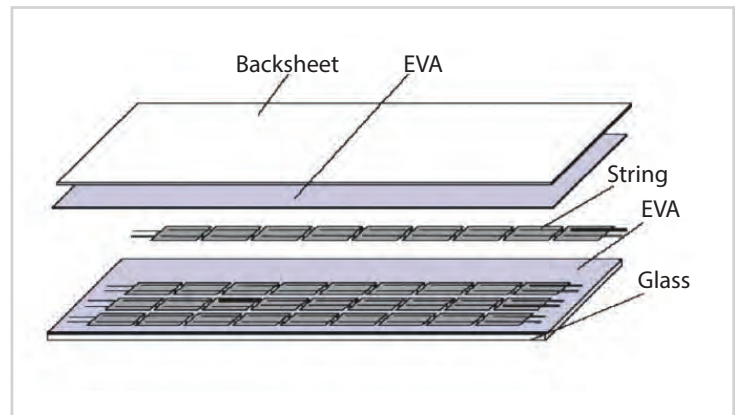


# AB-60MHC-P(T)

300 W  
305 W  
310 W

120 (6×20) 156.75\*78.375mm 5BB



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.

10

**YEAR**

Manufacturing Warranty

10

**YEAR WARRANTY**

90% Power Output

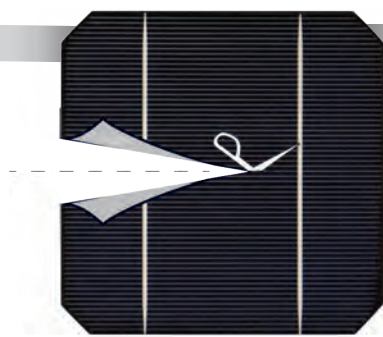
25

**YEAR WARRANTY**

80% Power Output

## WHY ABI-SOLAR?

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



✂️ busbar ✂️ strings ✂️ cell surface

## 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

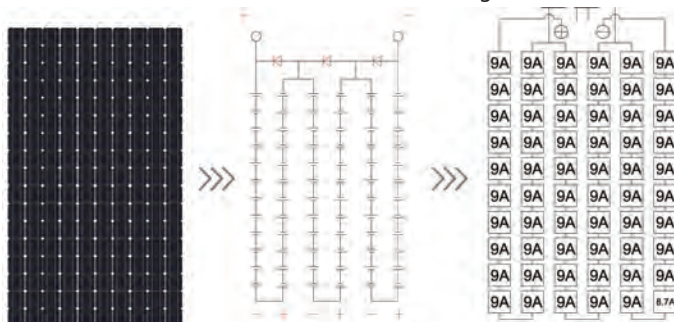
The shorter conductor, the less amperage, the lower resistance. Lower resistance reduces power loss up to 6% and increase the output power from 5W to 8W.



### More Strings

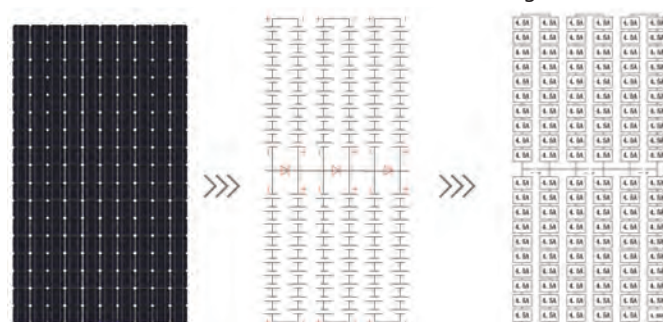
Instead of 6 strings of cells in conventional 60-cells module, half-cell module includes 12 strings. It deals with the performance mismatch happened between cells caused by shading, cells' initial heterogeneity and uneven degradation.

**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 **18.8%**

Efficiency **16.5%**

### Overheating

Cell's operating current 4.66A  
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

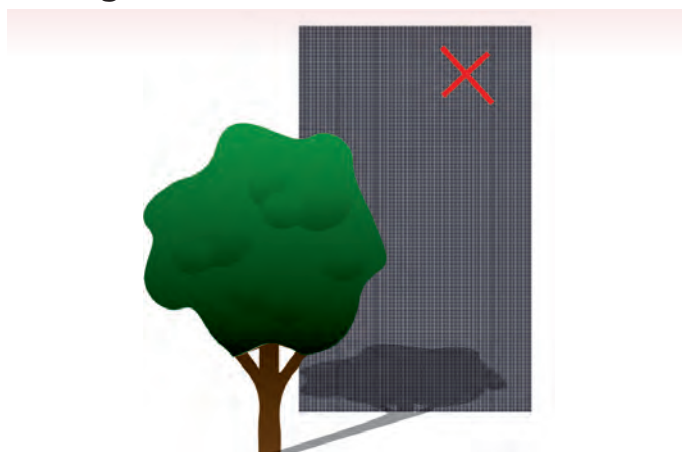
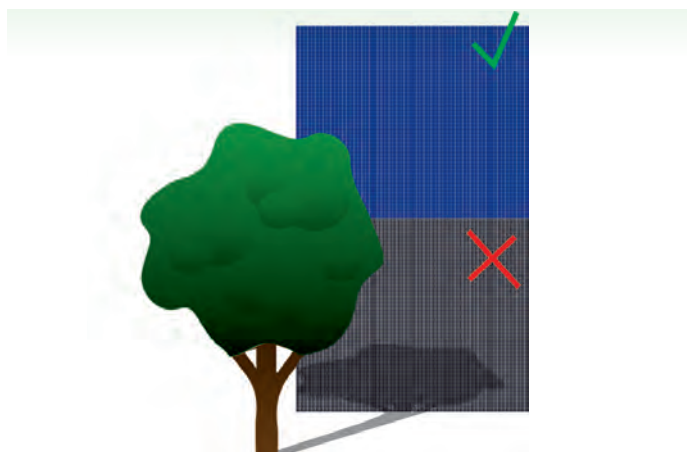
# How does it improve our modules?

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.

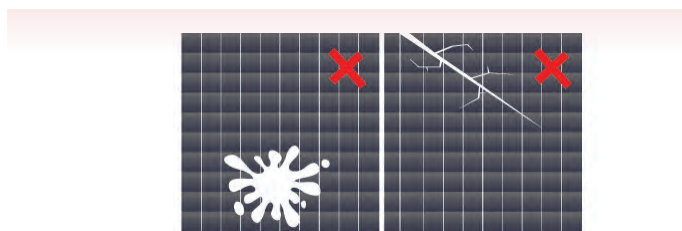
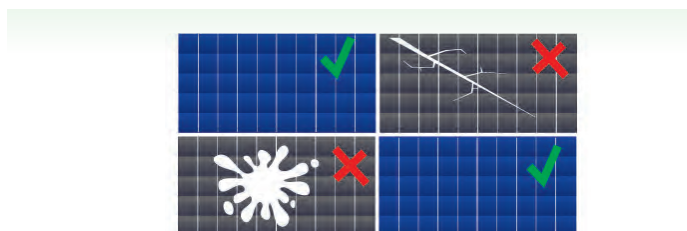
## Half-Cell PERC Module

## standard module

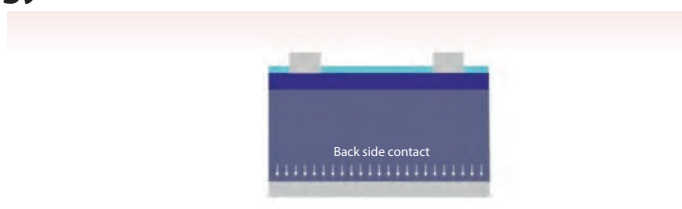
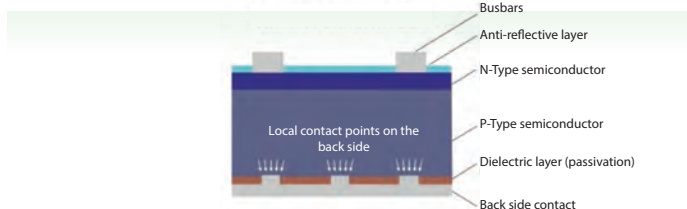
### Partial Shading



### Point mechanical damage and dirt



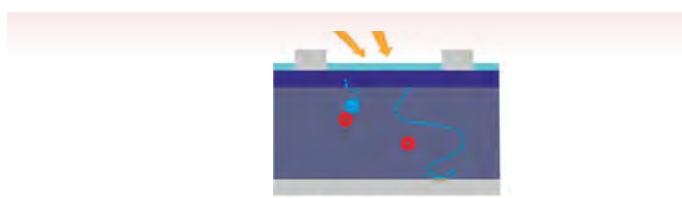
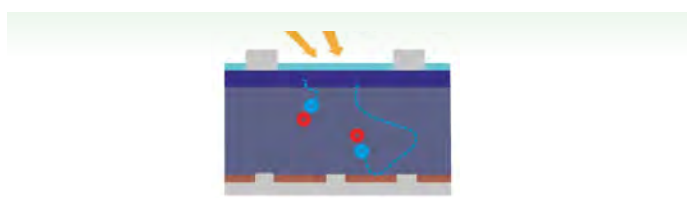
### Technology PERC



### Increasing the absorption capacity of the photocell



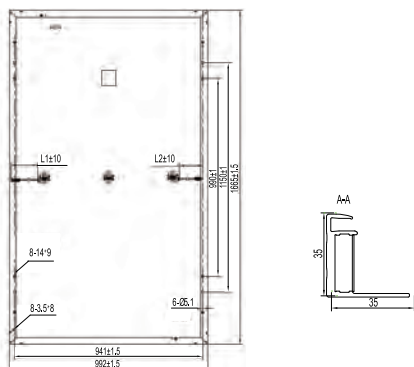
### Reflection of electrons in the p-n transition zone



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

# AB-60MHC-P(T)

## MECHANICAL DRAWINGS



## MECHANICAL SPECIFICATIONS

Cell type	Monocrystalline
Dimensions (A×B×C)	1665mm x 992mm x 35 mm(66.0 x 39 x 1.4in)
Weight	19.0 kg
Frame	Anodized aluminium alloy
Junction	IP67
Connector	MC-4 compatible
Output cables	4 mm <sup>2</sup> (IEC)

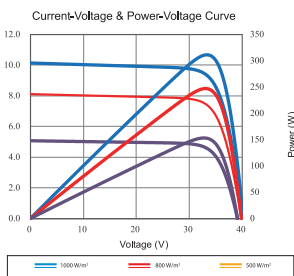
## ELECTRICAL CHARACTERISTICS (STC)

	AB300-60MHC-P(T)	AB305-60MHC-P(T)	AB310-60MHC-P(T)
Maximum Power (Pmax)	300W	305W	310W
Shot Circuit Current (Isc)	9.90A	10.00A	10.12A
Open Circuit Voltage (Voc)	39.8V	40.0V	40.2V
Maximum Power Current (Imp)	9.13A	9.23A	9.32A
Maximum Power Voltage (Vm)	32.9V	33.1V	33.3V
Module Efficiency	18.2%	18.5%	18.8%
Power Tolerance	0~ +5W		

## NOCT

	AB300-60MHC-P(T)	AB305-60MHC-P(T)	AB310-60MHC-P(T)
Maximum Power (Pmax)	222W	226W	230W
Shot Circuit Current (Isc)	7.99A	8.07A	8.17A
Open Circuit Voltage (Voc)	37.6V	37.8V	38.0V
Maximum Power Current (Imp)	7.14A	7.22A	7.30A
Maximum Power Voltage (Vm)	31.1V	31.3V	31.5V

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



## TEMPERATURE CHARACTERISTICS

Nominal Operating Cell Temperature (NOCT)	44±2 °C
Temperature Coefficient of Pmax	-0.39 %/K
Temperature Coefficient of Voc	-0.29 %/K
Temperature Coefficient of Isc	0.049 % /K

## SYSTEM INTEGRATION PARAMETERS

Maximum System Voltage	1500 DC(IEC)
Maximum Series Fuse	15A
Operating Temperature	-40~+85 °C
Maximum snow load (IEC 61215)	5400Pa

## QUALIFICATIONS AND CERTIFICATES



## INDUSTRY-LEADING WARRANTY BASED ON NOMINAL POWER

