

# Catch the sun through innovation

## Preliminary Data sheet MAXIS BC+ MULTICRYSTALLINE BACK CONTACT SILICON SOLAR CELL

The MAXIS BC+ is a multicrystalline back contact silicon solar cell. The two typical bus bars that are installed at the front of traditional solar cells have been transferred to the back. This unique technology has several advantages. The current trend is to integrate solar cells practically and aesthetically into our live- and work environment. Currently the Photovoltech MAXIS BC+ cells are already used in building-integrated solutions, integrating solar cells directly in the structure of a building. Furthermore, bringing the external contacts to a single surface allows simple automation and cost reduction in module assembly. Back contact cells allow a higher packing density of cells in a module and therefore increased module efficiencies are obtained.

### MAXIS BC+ Product Features

- Unequalled aesthetical appearance through the application of the unique Back Contact Technology (both contacts at the backside of the cell).
- Increased efficiency up to 17% and more
- Reduced front surface shading, resulting in higher current density
- Uniform surface texture offering a superior visual aspect similar to monocrystalline cells
- High potential for reduced module assembly costs by simplified automation
- Outstanding stability and reliability thanks to an adapted silicon nitride anti-reflection coating and an optimized metal contacting guaranteeing extended product lifetime
- 100% incoming inspection on high quality wafers
- Solar cells made in Belgium, Europe
- Advanced multicrystalline silicon solar cell technology developed in collaboration with IMEC
- 100% inline inspection
- Classification into narrow classes according to very strict specifications
- ISO 9001: 2008 certificate
- Regular calibration of cells by Fraunhofer ISE
- Back Contact technology protected by international patent

Photovoltech was founded in Tienen, Belgium in 2001. The first solar cells were produced in 2003. The company has the backing of its major shareholders: Total and GDF SUEZ (through Electrabel and Soltech) and it is a spin-off of IMEC - a world-leading independent microelectronics research center with a proven reputation in photovoltaic research. IMEC supports our own R&D team with their research and state-of-the-art technology. Thanks to this structure, Photovoltech has established a stable and reliable character. This (and the strong growth outlook for solar energy in Europe) means Photovoltech has everything to realize its ambition: to become a top player in the global market, working for the most renowned module manufacturers of the world.



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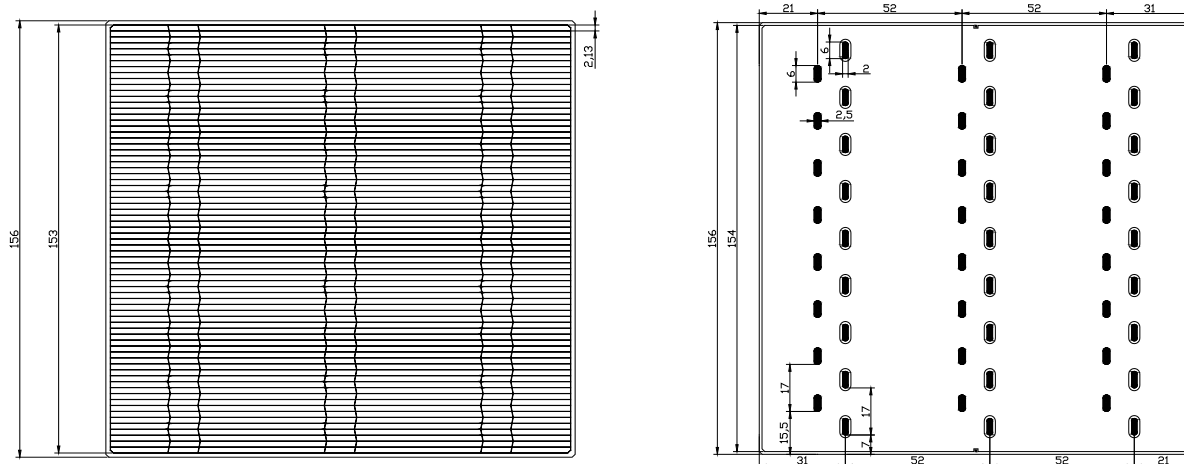


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## 1. Cell Description

Multicrystalline Back Contact silicon solar cell BCT156-AD	Size	156 mm x 156 mm ± 0,5 mm
	Thickness	200 µm ± 40 µm / 180 µm ± 30 µm
	Negative back contact	3 x 9 silver soldering pads, 2 mm x 6 mm each
	Positive back contact	3 x 8 silver soldering pads, 2.5 mm x 6 mm each

## 2. Dimensions



## 3. Electrical Data

Cell Class	$P_{mpp}^*$ (W)	$\eta_{mpp}^*$ (%)	$V_{mpp}^{**}$ (mV)	$I_{mpp}^{**}$ (A)	$V_{oc}^{**}$ (mV)	$I_{sc}^{**}$ (A)
BCT156-4060	4.06	16.7	514	7.90	618	8.52
BCT156-3980	3.98	16.4	508	7.85	615	8.50
BCT156-3900	3.90	16.0	503	7.84	613	8.45
BCT156-3820	3.82	15.7	498	7.75	610	8.38
BCT156-3740	3.74	15.4	492	7.68	608	8.33
BCT156-3660	3.66	15.0	485	7.56	604	8.15
BCT156-3580	3.58	14.7	484	7.41	601	7.99
BCT156-3500	3.50	14.4	483	7.26	598	7.96

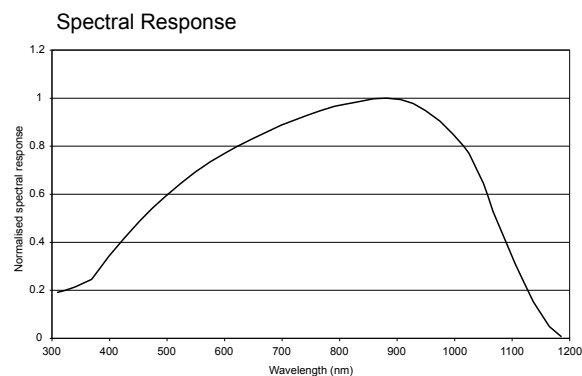
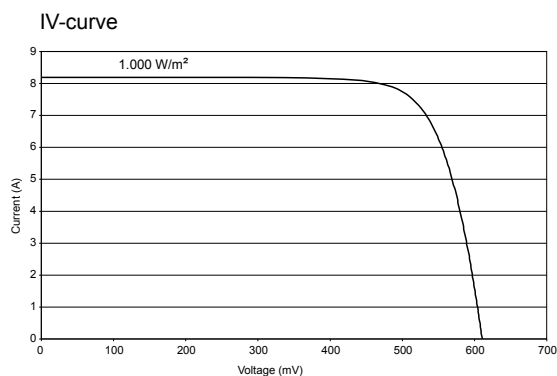
\* Specified is the mid-value for each class, the class width is always 0.08 W in power or 0,32% in efficiency.

\*\* These values are typical class averages measured on previously produced solar cells.

The cells are measured at intensity 1000 W/m<sup>2</sup>, spectrum AM1.5G, temperature 25°C. The error in  $P_{mpp}$  is < 2.5 %.

Temperature coefficients:  $(dP_{mpp}/dT)/P_{mpp} = -0.4 \text{ \%}/^{\circ}\text{C}$   $dV_{oc}/dT = -2 \text{ mV}/^{\circ}\text{C}$   $dI_{sc}/dT = +5.5 \text{ mA}/^{\circ}\text{C}$

## 4. Preliminary Electrical Characteristics



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