

SUNWEB BREAKTHROUGH TECHNOLOGY

Sunweb combines higher performance and more efficient manufacturing, which aims at lowering manufacturing costs of both the solar cells and the solar modules while simultaneously increasing cell and module efficiency. Sunweb is a back-contact solar cell based on the 'metal wrap through' (MWT) technology. Our highly automated manufacturing plant is designed to produce 6" Sunweb cells. The latest technology features are incorporated in our production process to guarantee the highest cell efficiencies.

MEASUREMENTS AND CALIBRATION

The electrical performance of every manufactured solar cell is individually tested and sorted according to very narrow current classes. This means that you get a high performance solar cell with precisely defined characteristics. Our testing equipment is calibrated on a regular basis to comply with IEC 60904-9 standards.

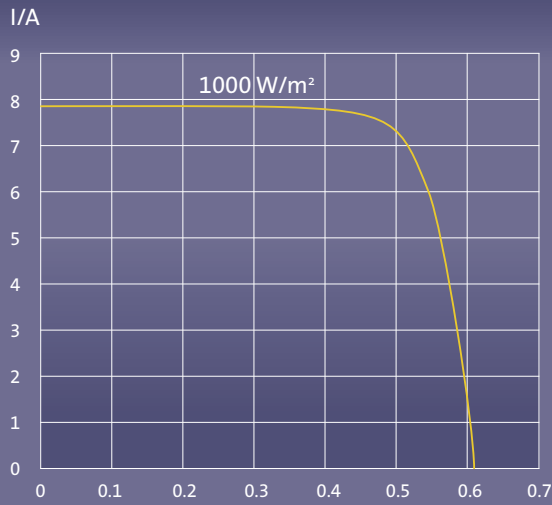
PRODUCTION AND QUALITY CONTROL

- Visual inspection on every single cell for mechanical and aesthetic faults.
- Hot spot resistance ($I_{rev} < 3A$ @ $-10V$) and parallel resistance testing, resulting in an excellent low light behaviour.
- Our production equipment is optimised for soft-handling to avoid micro cracks and reduce breakage rates during in-line processing.

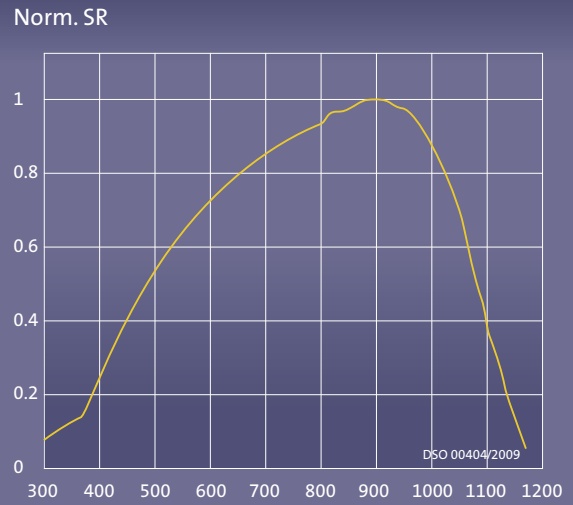
MECHANICAL DATA AND DESIGN

- Multicrystalline silicon material
- Dimensions 156 mm x 156 mm (± 0.5 mm)
- Thickness 220 μm ($\pm 40 \mu m$)
200 μm ($\pm 40 \mu m$)
180 μm ($\pm 30 \mu m$)
- Contacts
 - Back: 16 emitter contacts (Ag) of $\varnothing 3mm$
 - Back: 15 collector contacts (Ag) of $\varnothing 3mm$
- Blue anti-reflecting coating
- Fine line screen printed metallization

IV CURVE



SPECTRAL RESPONSE



ELECTRICAL CHARACTERISTICS

Typical data at STC (non encapsulated cells)*

Cell class	P _{mp} (W)	Efficiency (%)	V _{oc} (mV)	I _{sc} (A)
Sunweb156PS360	3.60	14.8	0.599	7.92
Sunweb156PS365	3.65	15.0	0.603	7.94
Sunweb156PS370	3.70	15.2	0.606	7.98
Sunweb156PS375	3.75	15.4	0.608	8.03
Sunweb156PS380	3.80	15.6	0.611	8.08
Sunweb156PS385	3.85	15.8	0.614	8.12
Sunweb156PS390	3.90	16.0	0.617	8.16
Sunweb156PS395	3.95	16.2	0.620	8.20
Sunweb156PS400	4.00	16.4	0.623	8.24
Sunweb156PS405	4.05	16.6	0.626	8.28
Sunweb156PS410	4.10	16.8	0.629	8.33

Standard Test Conditions (STC): 1000 W/m², AM 1.5, 25°C; tolerance P: ± 1,5% rel. The temperature coefficients of the open circuit voltage and the peak power are -2.15 mV/K and -17 mW/K respectively.

* This table shows typical values based on historical production data. This implies no warranty that future production data will comply with these typical values.