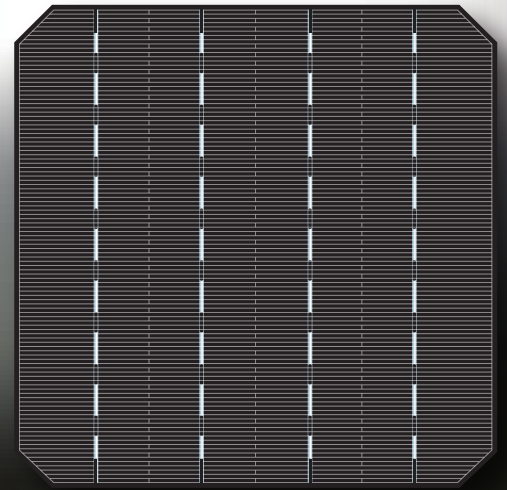




SAPPHIRE Series

S-156-4 ver.F

Monocrystalline Solar Cell



Features

- High-efficiency solar cells with an anisotropically etched surface
- Silicon nitride anti-reflection coating
- Silver front contact bars and full surface aluminum back contact field

Performance and Quality

- Proper handling from incoming inspection through production, outgoing inspection and packaging
- 100% checked for reverse current and visual appearance
- Calibrated against Fraunhofer ISE
- RoHS compliance
- **100% PID Resistance**

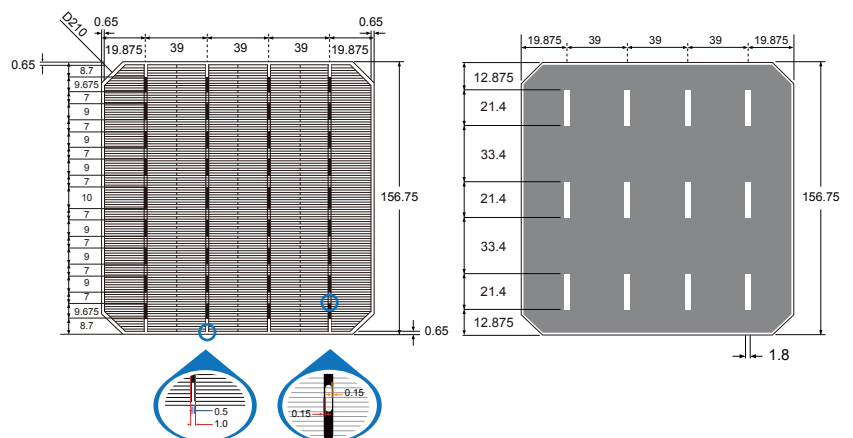
Packaging

- Minimize the risk of broken cells with special design
- Label with product information

Physical Characteristics

Dimension	156.75 mm x 156.75 mm ± 0.25 mm
Diagonal	210 mm ± 0.5 mm
Thickness (si)	180 μm - 20 / + 30 μm 200 μm ± 30 μm
Front Side (-)	Silicon nitride anti-reflection coating 1.0 mm silver busbar
Back Side (+)	Full surface aluminum back surface field 1.8 mm (silver) discontinuous soldering pads

Cell Layout





S-156-4 ver.F

Monocrystalline Solar Cell



Solartech
Energy Corp.

Electrical Characteristics

Class	Efficiency Range (%)	Rated Power (Wp)	*Maximum Power Current (A)	*Short Circuit Current (A)	*Maximum Power Voltage (V)	*Open Circuit Voltage (V)
206	20.6-20.7	5.033	9.124	9.663	0.553	0.656
207	20.7-20.8	5.057	9.134	9.674	0.555	0.658
208	20.8-20.9	5.082	9.145	9.684	0.557	0.659
209	20.9-21.0	5.106	9.158	9.697	0.559	0.661
210	21.0-21.1	5.131	9.174	9.711	0.561	0.662
211	21.1-21.2	5.155	9.194	9.728	0.562	0.663
212	21.2-21.3	5.180	9.214	9.746	0.563	0.664
213	21.3-21.4	5.204	9.233	9.761	0.565	0.665
214	21.4-21.5	5.228	9.250	9.776	0.566	0.666
215	21.5-21.6	5.253	9.275	9.805	0.567	0.667
216	21.6-21.7	5.277	9.301	9.835	0.568	0.669
217	21.7-21.8	5.302	9.327	9.864	0.569	0.671

Test condition : 1000 W / m², AM 1.5, 25°C Power measuring tolerance: ±1.5% rel.

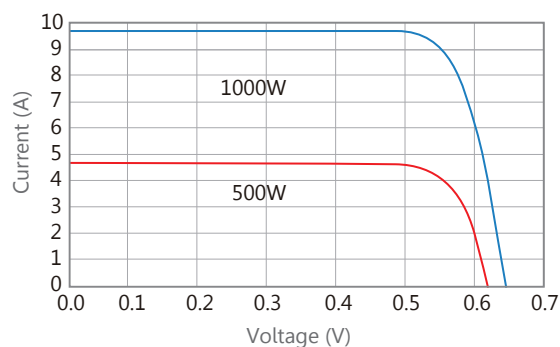
Temperature coefficients

Current (%/K)	0.0398
Voltage (%/K)	-0.3099
Power (%/K)	-0.4070

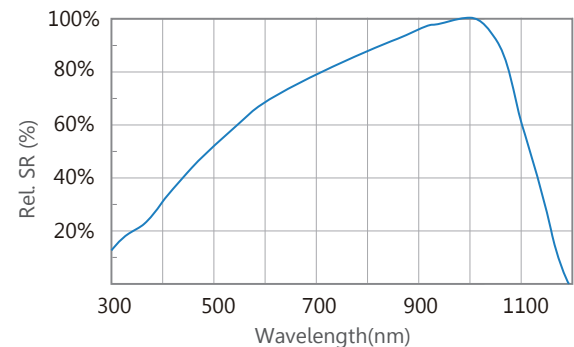
Light Intensity Dependence

Intensity (W/m ²)	Vmpp(%)	Imp(%)
1000	100.0	100.0
900	99.7	90.0
500	97.6	49.9
300	95.5	29.9
200	93.7	19.8

IV-Curve



Spectral Response



Solartech Energy Corp.



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