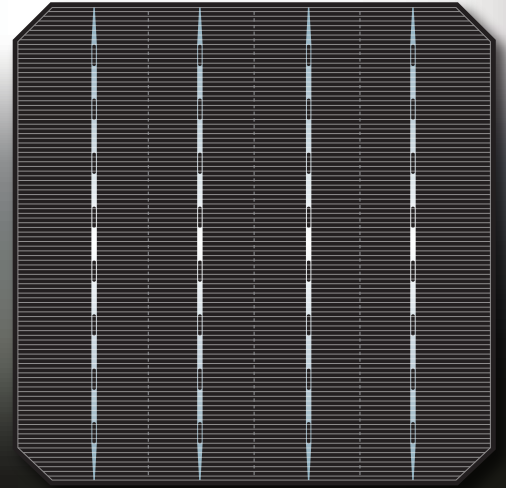


## SAPPHIRE Series

# S-156-4 ver.E

## 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**

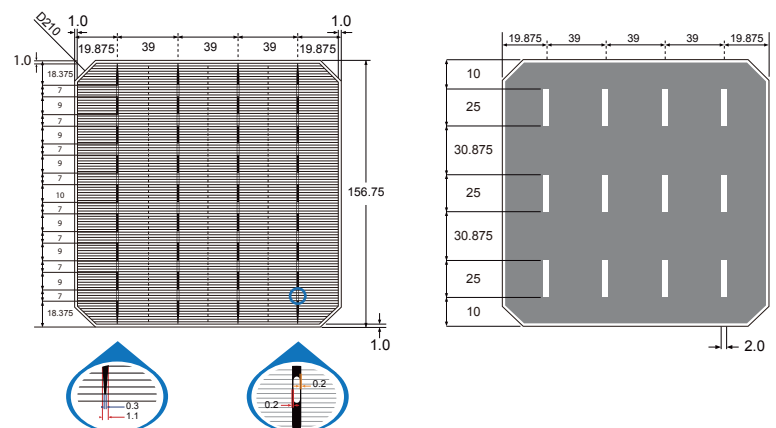
### Packaging

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

### Physical Characteristics

Dimension	156.75 mm x 156.75 mm $\pm$ 0.25 mm
Diagonal	210 mm $\pm$ 0.5 mm
Thickness (si)	180 $\mu$ m - 20 / + 30 $\mu$ m 200 $\mu$ m $\pm$ 30 $\mu$ m
Front Side (-)	Silicon nitride anti-reflection coating 1.1 mm silver busbar
Back Side (+)	Full surface aluminum back surface field 2.0 mm (silver) discontinuous soldering pads

### Cell Layout





# S-156-4 ver.E

## 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)
205	20.5-20.6	5.009	9.113	9.717	0.552	0.658
206	20.6-20.7	5.033	9.128	9.722	0.553	0.659
207	20.7-20.8	5.057	9.143	9.727	0.555	0.660
208	20.8-20.9	5.082	9.159	9.732	0.556	0.661
209	20.9-21.0	5.106	9.174	9.739	0.558	0.662
210	21.0-21.1	5.131	9.189	9.744	0.559	0.663
211	21.1-21.2	5.155	9.205	9.749	0.561	0.663
212	21.2-21.3	5.180	9.220	9.754	0.562	0.664

Test condition : 1000 W / m<sup>2</sup>, AM 1.5, 25°C      Power measuring tolerance: ±1.5% rel.

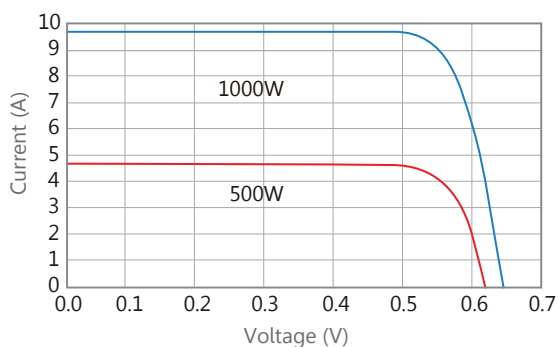
### Temperature coefficients

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

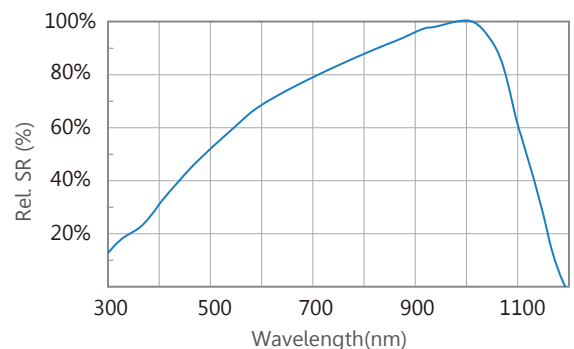
### Light Intensity Dependence

Intensity [W/m <sup>2</sup> ]	V <sub>mpp</sub>	I <sub>mpp</sub>
1000	1.000	1.000
900	0.997	0.900
500	0.976	0.499
300	0.955	0.299
200	0.937	0.198

### IV-Curve



### Spectral Response



## Solartech Energy Corp.



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