SOLARCLOTH system

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a-SiGe Thin Film Solar Module

20 years output warranty (80%)
10 years output warranty (90%)
2 years product warranty

Summary of Qualities

- glass-free structure, unbreakable, flexible and light-weight module
- low weight allows for easy handling and fast intallation
- can be bonded, bolted or heat-welded to appropriate supports
- balance of systems costs 40% lower since a racking system is not needed
- innovative encapsulation is safe, robust and guarantees long module lifetime
- high energy output yields excellent performance ratios
- no initial performance degradation like with other thin film technologies
- cell consist of 68 units that can be cut to meet voltage and current required
- resistant to potential induced degradation (PID) up to 1000 V system voltage
- junction box can be mounted as standard
- annealing effect allowing better performance in hot weather
- developed, manufactured and quality-tested in Japan

Performance*

Performance at Standard Test Conditions (STC: 1000 W/m², 25° C, Spectrum AM 1,5 G)

Nominal Power P_{max}	[W]	30
Voltage at Nominal Power V_{mp}	[V]	79.8
Current at Nominal Power I_{mp}	[A]	0.288
Open Circuit Voltage V_{oc}	[V]	108.8
Short Circuit Current I_{sc}	[A]	0.379

Temperature Coefficients

Temperature Range	-10 ....+90 °C
Temperature Coefficient of V_{oc}	Voc(t)= Voc(28)×(1-0.0035×(t-25))
Temperature Coefficient of I_{sc}	Isc(t)= Isc(28)×(1+0.0008×(t-25))
Temperature Coefficient of P_{max}	Pmax(t) = Pmax(28)×(1-0.0015×(t-25)-0.000017(t-25)2)

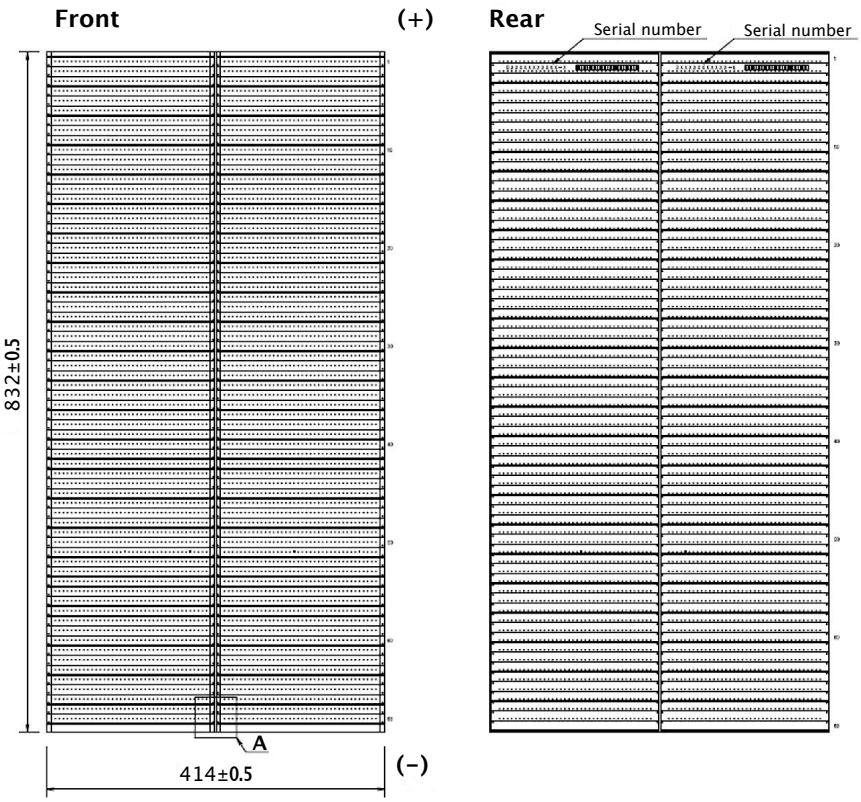
*The compensation formulae shown above have been determined from the results of measurements obtained with the solar modules incorporating solar cells.

Mechanical Specifications

Module Construction	Barrier Foil/ Encapsulant/ Solar Cells/ Encapsulant/ Polymer
Number and Type of Solar Cells	68 a-SiGe cells FSA0682AAA0
Dimensions (L x W x T)	832 mm x 414 mm x 0.8 mm (20 mm with junction box)
Weight	0.280 kg
Junction Boxes	2 pieces, HC4 connectors
Certifications	VDE, IEC EN 61646, IEC EN 61730
Product Guarantee	2 years
Performance Guarantee	10 years 90%, 20 years 80% (of specified nominal power rating)

* Measurement tolerances: Nominal Power P_{max} ±5 %, all other Electrical Parameters ±10 %

Solar Module



Note: This preliminary data sheet is provided to assist you in the evaluation of the product still under development