

First Solar FS Series 2 PV Module

Thin film solutions for high performance PV systems

First Solar® FS Series 2™ PV Modules are IEC 61646 and IEC 61730 certified for use in systems up to 1000 VDC, UL Listed (600VDC), and meet the requirements of Safety Class II. First Solar provides cost effective thin film module solutions to leading solar project developers and system integrators for large scale, grid-connected solar power plants. First Solar application engineers provide technical support and comprehensive product documentation to support the design, installation, and long term operations of high performance PV systems.





WARRANTY

- Material and workmanship warranty for five (5) years and a power output warranty of 90% of the nominal output power rating (P_{MPP} +/- 5%) during the first ten (10) years and 80% during twenty-five (25) years subject to the warranty terms and conditions.
- Modules are life cycle managed with a collection and recycling program, providing module owners with no cost, pre-funded, end-of-life take back, and recycling of the modules.

All specifications and warranties apply only to products sold and installed in North America. For applications outside of North America, please refer to the Global Datasheet (PD-5-401-02).

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ELECTRICAL SPECIFICATIONS

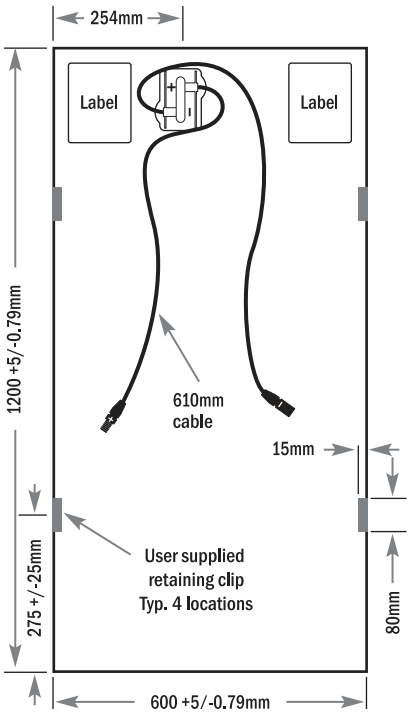
MODEL NUMBERS AND RATINGS AT STC[1]*						
Nominal Values		FS-270	FS-272	FS-275	FS-277	FS-280
Nominal Power(+/-5%)	P_{MPP}(W)	70	72.5	75	77.5	80
Voltage at P_{MAX}	V_{MPP}(V)	65.5	66.6	68.2	69.9	71.2
Current at P_{MAX}	I_{MPP}(A)	1.07	1.09	1.10	1.11	1.12
Open Circuit Voltage	V_{OC}(V)	88.0	88.7	89.6	90.5	91.5
Short Circuit Current	I_{SC}(A)	1.23	1.23	1.23	1.22	1.22
Maximum System Voltage	V_{SYS}(V)	1000 (600 UL[2])				
Temperature Coefficient of P_{MPP}	$T_K(P_{MPP})$	-0.25%/°C				
Temperature Coefficient of V_{OC}, high temp (>25°C)	$T_K(V_{OC, high\ temp})$	-0.25%/°C				
Temperature Coefficient of V_{OC}, low temp (-40°C to + 25°C)	$T_K(V_{OC, low\ temp})$	-0.20%/°C				
Temperature Coefficient of I_{SC}	$T_K(I_{SC})$	+0.04%/°C				
Limiting Reverse Current	I_R(A)	2				
Maximum Series Fuse	I_{CF}(A)	2				

MODEL NUMBERS AND RATINGS AT 800W/m², NOCT[3] 45°C, AM 1.5*						
Nominal Values		FS-270	FS-272	FS-275	FS-277	FS-280
Nominal Power(+/-5%)	P_{MPP}(W)	52.5	54.4	56.3	58.1	60.0
Voltage at P_{MAX}	V_{MPP}(V)	61.4	62.4	63.9	65.5	66.8
Current at P_{MAX}	I_{MPP}(A)	0.86	0.87	0.88	0.89	0.90
Open Circuit Voltage	V_{OC}(V)	81.8	82.5	83.3	84.2	85.1
Short Circuit Current	I_{SC}(A)	1.01	1.01	1.01	1.00	1.00

MECHANICAL DESCRIPTION

Length	1200mm	Thickness	6.8mm
Width	600mm	Area	0.72m²
Weight	12kg	Leadwire	4.0mm², 610mm
Connectors	Solarline 1 type connector		
Bypass Diode	None		
Cell Type	CdS/CdTe semiconductor, 116 active cells		
Frame Material	None		
Cover Type	3.2mm heat strengthened front glass laminated to 3.2mm tempered back glass		
Encapsulation	Laminate material with edge seal		

MECHANICAL DRAWING



* All ratings +/-10%, unless specified otherwise. Specifications are subject to change.

[1] Standard Test Conditions (STC) 1000W/m², AM 1.5, 25°C

[2] Required to maintain UL compliance

[3] Nominal Operating Cell Temperature: Module operation temperature at 800W/ m² irradiance, 20°C air temperature, 1m/s wind speed.

High Performance PV System Solutions

Key Features:

- Produces high energy output across a wide range of climatic conditions with excellent temperature response coefficient
- Proven to perform as predicted with a high Performance Ratio (PR)
- Frameless laminate is robust, cost-effective and recyclable, and does not require module grounding
- Manufactured in highly automated, state-of-the-art facilities certified to ISO 9001:2008 and ISO 14001:2004 quality and environmental management standards
- Tested by leading international institutes and certified for reliability and safety:
  - Certified to IEC 61646
  - Certified to IEC 61730
  - CE Marking
  - Safety Class II @ 1000 V
  - UL 1703 and ULC 1703 Listed (Class C Fire Rating)
  - Eligible CSI PV Module
  - FSEC Certified

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