

First Solar Series 6™

NEXT GENERATION THIN FILM SOLAR TECHNOLOGY

MODULE DATASHEET



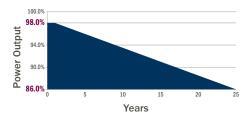
420-445 Watts 17%+ Efficiency

INDUSTRY-LEADING MODULE WARRANTY

98%

WARRANTY START POINT

0.5% WARRANTED ANNUAL DEGRADATION RATE



- 25-Year Linear Performance Warranty
- 10-Year Limited Product Warranty

HIGH-POWER PV MODULES

First Solar Series 6™ photovoltaic (PV) module sets a new industry benchmark for reliable energy production, optimized design and environmental performance. Series 6 modules are optimized for every stage of your application, significantly reducing balance of system, shipping, and operating costs.



MORE ENERGY PER MODULE

- More watts per connection and per lift (420+ watts) than 72-cell silicon modules (<400 watts)
- · With superior temperature coefficient, spectral response and shading behavior, Series 6 modules generate up to 8% more energy than conventional crystalline silicon solar modules
- Anti-reflective coated glass enhances energy production



INNOVATIVE MODULE DESIGN

- Under-mount frame allows for simple and fast installation
- Dual junction box optimizes module-to-module connections
- Under-mount frame provides the cleaning and snowshedding benefits of a frameless module, protects edges against breakage and enables horizontal stacking



PROVEN LONG-TERM RELIABILITY

- Manufactured using methods and process adapted from Series 4 modules – the most tested solar modules in the industry
- Independently tested and certified for reliable performance that exceeds IEC standards in high temperature, high humidity, extreme desert and coastal applications



BEST ENVIRONMENTAL PROFILE

- Fastest energy payback time and smallest carbon and water footprint in the industry
- Global PV collection and recycling services available through First Solar or customer-selected third-party

MODEL TYPES AND RATINGS AT STANDARD TEST CONDITIONS (1000W/m², AM 1.5, 25°C)²							
NOMINAL VALUES		FS-6420 FS-6420A	FS-6425 FS-6425A	FS-6430 FS-6430A	FS-6435 FS-6435A	FS-6440 FS-6440A	FS-6445 FS-6445A
Nominal Power ³ (-0/+5%)	P _{MAX} (W)	420.0	425.0	430.0	435.0	440.0	445.0
Efficiency (%)	%	17.0	17.2	17.4	17.6	17.8	18.0
Voltage at P _{MAX}	V _{MAX} (V)	180.4	181.5	182.6	183.6	184.7	185.7
Current at P _{MAX}	I _{MAX} (A)	2.33	2.34	2.36	2.37	2.38	2.40
Open Circuit Voltage	V _{OC} (V)	218.5	218.9	219.2	219.6	220.0	220.4
Short Circuit Current	I _{SC} (A)	2.54	2.54	2.54	2.55	2.55	2.56
Maximum System Voltage	V _{SYS} (V)	1500⁵					
Limiting Reverse Current	I _R (A)	6.0					
Maximum Series Fuse	I _{CF} (A)	6.0					

RATINGS AT NOMINAL OPERATING CELL TEMPERATURE OF 45°C (800W/m², 20°C air temperature, AM 1.5, 1m/s wind speed)²							
Nominal Power	P _{MAX} (W)	317.2	320.9	324.7	328.5	332.4	336.0
Voltage at P _{MAX}	V _{MAX} (V)	168.7	169.8	170.9	172.0	173.1	174.1
Current at P _{MAX}	I _{MAX} (A)	1.88	1.89	1.90	1.91	1.92	1.93
Open Circuit Voltage	V _{OC} (V)	206.3	206.6	207.0	207.3	207.7	208.0
Short Circuit Current	I _{SC} (A)	2.04	2.05	2.05	2.06	2.06	2.06

TEMPERATURE CHARACTERISTICS		
Module Operating Temperature Range	(°C)	-40 to +85
Temperature Coefficient of P _{MAX}	T _K (P _{MAX})	-0.32%/°C [Temperature Range: 25°C to 75°C]
Temperature Coefficient of V _{oc}	T _K (V _{oc})	-0.28%/°C
Temperature Coefficient of I _{sc}	T _K (I _{sc})	+0.04%/°C

CERTIFICATIONS AND TESTS⁴ 61215 & 61730 1500V⁵, CE

61701 Salt Mist Corrosion 60068-2-68 Dust and Sand Resistance

UL

UL 1703 1500V Listed⁵

REGIONAL CERTIFICATIONS

CSI Eligible JET FSEC MCS InMetro

CEC Australia

EXTENDED DURABILITY TESTS

Long-Term Sequential Thresher Test PID Resistant

QUALITY & EHS

ISO 9001:2008 & 14001:2004 OHSAS 18001:2007







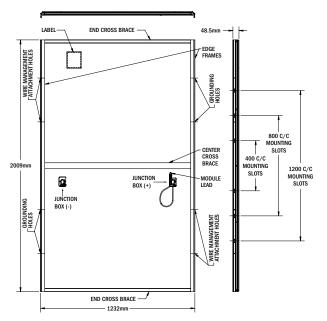




MECHANICAL DESCRIPTION Length 2009mm Width 1232mm Thickness 48.5mm Area 2.47m² Module Weight 35kg $Leadwire^{6} \\$ 2.5mm2, 720mm (+) & Bulkhead (-) MC4-EVO 2 Connectors Bypass Diode N/A Cell Type Thin film CdTe semiconductor, up to 264 cells Frame Material Anodized Aluminum Front Glass 2.8mm heat strengthened Series 6A™ includes anti-reflective coating Back Glass 2.2mm heat strengthened Encapsulation Laminate material with edge seal Frame to Glass Adhesive Silicone Wind Load⁷ 2400Pa Snow Load 5400Pa

PACKAGING INFO	PACKAGING INFORMATION						
Modules Per Pallet 26		Pallet Dimensions (L x W x H)	2200 x 1300 x 1150mm (86 x 51 x 45in)				
Pallet Weight	1025kg	Pallets per 40' Container	18				

MECHANICAL DRAWING



- Limited power output and product warranties subject to warranty terms and conditions
- All ratings $\pm 10\%$, unless specified otherwise. Specifications are subject to change
- Measurement uncertainty applies
- Testing Certifications/Listings pending
- IEC 61730-1: 2016 Class II | ULC 1703 1000V listed
- Leadwire length from junction box exit to connector mating surface

See User Guide

The information included in this Module Datasheet is subject to change without notice and is provided for informational purposes only. No contractual rights are established or should be inferred because of user's reliance on the information contained in this Module Datasheet. Please refer to the appropriate Module User Guide and Module Product Specification document for more detailed technical information regarding module performance, installation and use.

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