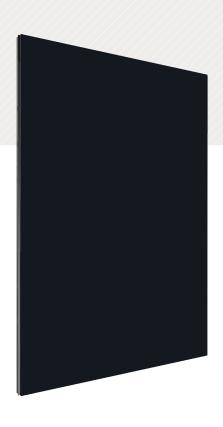


First Solar Series 6™

NEXT GENERATION THIN FILM SOLAR TECHNOLOGY

MODULE DATASHEET



420-450 Watts 17%+ Efficiency

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
- With superior temperature coefficient, spectral response and shading behavior, Series 6 modules generate up to 8% more energy per watt than conventional crystalline silicon solar modules
- · Anti-reflective coated glass enhances energy production



INNOVATIVE MODULE DESIGN

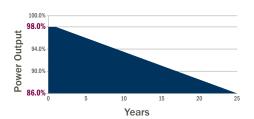
- · Under-mount frame allows for simple and fast installation
- SpeedSlots[™] combine the robustness of bottom mounting with the speed of top clamping while utilizing fewer fasteners
- · Dual junction box optimizes module-to-module connections
- Under-mount frame provides the cleaning and snowshedding benefits of a frameless module, protects edges against breakage and enables horizontal stacking



INDUSTRY-LEADING MODULE WARRANTY

98% WARRANTY START POINT

0.5% WARRANTED ANNUAL DEGRADATION RATE



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

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	FS-6450 FS-6450A
Nominal Power ³ (-0/+5%)	P _{MAX} (W)	420.0	425.0	430.0	435.0	440.0	445.0	450.0
Efficiency (%)	%	17.0	17.2	17.4	17.6	17.8	18.0	18.2
Voltage at P _{MAX}	V _{MAX} (V)	180.4	181.5	182.6	183.6	184.7	185.7	186.8
Current at P _{MAX}	I _{MAX} (A)	2.33	2.34	2.36	2.37	2.38	2.40	2.41
Open Circuit Voltage	V _{oc} (V)	218.5	218.9	219.2	219.6	220.0	220.4	221.1
Short Circuit Current	I _{SC} (A)	2.54	2.54	2.54	2.55	2.55	2.56	2.57
Maximum System Voltage	V _{SYS} (V)	1500 ⁵						
Limiting Reverse Current	I _R (A)	5.0						
Maximum Series Fuse	I _{CF} (A)	5.0						
RATINGS AT NOMINAL OPERATING CELL TEMPERATURE OF 45°C (800W/m² 20°C air temperature AM 1.5.1m/s wind speed)2								

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	339.9
Voltage at P _{MAX}	V _{MAX} (V)	168.7	169.8	170.9	172.0	173.1	174.1	175.2
Current at P _{MAX}	I _{MAX} (A)	1.88	1.89	1.90	1.91	1.92	1.93	1.94
Open Circuit Voltage	V _{OC} (V)	206.3	206.6	207.0	207.3	207.7	208.0	208.8
Short Circuit Current	I _{SC} (A)	2.04	2.05	2.05	2.06	2.06	2.06	2.07

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 TESTS

61215:2016 & 61730-1:2016⁵, CE 61701 Salt Mist Corrosion 60068-2-68 Dust and Sand Resistance

UL 1703 Listed⁵

REGIONAL CERTIFICATIONS

MCS FSEC InMetro4 BIS⁴ MyHijau

EXTENDED DURABILITY TESTS

ANSI/CAN/CSA-C450-18 Long-Term Sequential Thresher Test PID Resistant

QUALITY & EHS

ISO 9001:2015 ISO 14001:2015 ISO 45001:2018









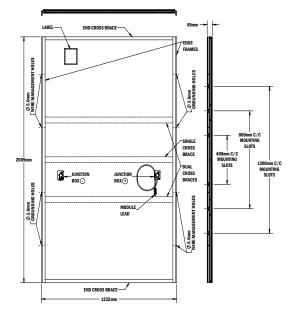


MECHANICAL DESCRIPTION		
Length	2009mm	
Width	1232mm	
Thickness	49mm	
Area	2.47m ²	
Module Weight	36kg	
Leadwire ⁶	2.5mm ² , 720mm (+) & Bulkhead (-)	
Connectors	MC4-EVO 2 or alternate	
Bypass Diode	N/A	
Cell Type	Thin film CdTe semiconductor, up to 264 cells	
Frame Material	Anodized Aluminum	
Front 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	

PACKAGING INFORMATION						
Modules Per Pallet	27	Pallet Dimensions (L x W x H)	2200 x 1300 x 1164mm (86 x 51 x 45.8in)			
Pallet Weight	1072kg	Pallets per 40' Container	18			

2400Pa

MECHANICAL DRAWING



Install in portrait only

- 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
- Higher load ratings can be met with additional support, subject to testing

Load Rating⁷

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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