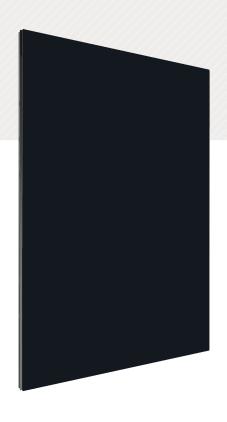


First Solar Series 6

ADVANCED THIN FILM SOLAR TECHNOLOGY

MODULE DATASHEET



HIGH-POWER PV MODULES

First Solar Series 6 photovoltaic (PV) modules set the industry benchmark for reliable energy production, optimized design and environmental performance. The advanced design is optimized for every stage of your application, significantly reducing balance of system, shipping, and operating costs.



MORE LIFETIME ENERGY PER NAMEPLATE WATT

- · Industry's best (0.3%) warranted degradation rate
- Superior temperature coefficient, spectral response and shading behavior
- Unlike crystalline silicon modules, First Solar's thin film technology does not experience the losses associated with LID and LeTID
- Anti-reflective coated glass enhances energy production



INNOVATIVE MODULE DESIGN

- Under-mount frame provides the cleaning and snowshedding benefits of a frameless module while protecting edges against breakage
- Innovative SpeedSlots combine the robustness of bottom mounting with the speed of top clamping while utilizing fewer fasteners to achieve the industry's fastest installation times and lowest mounting hardware costs
- Dual junction box design optimizes module-to-module connections and eliminates the need for wire management

430-460 Watts Up to 18.6% Efficiency

INDUSTRY-LEADING MODULE WARRANTY

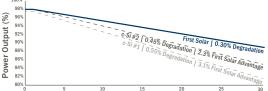
98% WARRANTY START POINT

0.3% WARRANTED ANNUAL DEGRADATION RATE



BEST IN-CLASS RELIABILITY & DURABILITY

- Manufactured under one roof with 100% traceable QA/QC
- Independently tested and certified for reliable performance that exceeds IEC standards in high temperature, high humidity, extreme desert and coastal applications
- Inherently immune to and warranted against power loss from cell cracking
- · Durable glass/glass construction



First Solar Lifetime Energy Advantage

From 30 Year Warranted Annual Power Degradation



- · 30-Year Linear Performance Warranty
- 12-Year Limited Product Warranty
- Industry's First and Only Cell Cracking Warranty



BEST ENVIRONMENTAL PROFILE

- Fastest energy payback time in the industry
- Carbon footprint that is 2.5X lower and a water footprint that is 3X lower than mono crystalline silicon panels on a life cycle basis
- Global PV module 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-6430 FS-6430A	FS-6435 FS-6435A	FS-6440 FS-6440A	FS-6445 FS-6445A	FS-6450 FS-6450A	FS-6455 FS-6455A	FS-6460 FS-6460A
Nominal Power ³ (-0/+5%)	P _{MAX} (W)	430	435	440	445	450	455	460
Efficiency (%)	%	17.4	17.6	17.8	18.0	18.2	18.4	18.6
Voltage at P _{MAX}	V _{MAX} (V)	182.6	183.6	184.7	185.7	186.8	187.8	188.8
Current at P _{MAX}	I _{MAX} (A)	2.36	2.37	2.38	2.40	2.41	2.42	2.44
Open Circuit Voltage	V _{OC} (V)	219.2	219.6	220.0	220.4	221.1	22.2.0	222.9
Short Circuit Current	I _{SC} (A)	2.54	2.55	2.55	2.56	2.57	2.58	2.59
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								
Nominal Power	P _{MAX} (W)	324.7	328.5	332.4	336.0	339.9	343.6	347.3
Voltage at P _{MAX}	V _{MAX} (V)	170.9	172.0	173.1	174.1	175.2	176.2	176.3
Current at P _{MAX}	I _{MAX} (A)	1.90	1.91	1.92	1.93	1.94	1.95	1.97
Open Circuit Voltage	V _{oc} (V)	207.0	207.3	207.7	208.0	208.8	209.6	210.4
Short Circuit Current	I _{SC} (A)	2.05	2.06	2.06	2.06	2.07	2.08	2.09

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		

MECHANICAL DRAWING

CERTIFICATIONS AND TESTS 4				
IEC				
61215:2016 & 61730-1:2016 ⁵ , CE 61701 Salt Mist Corrosion 60068-2-68 Dust and Sand Resistance				
UL				
UL 1703 1500\ UL 61730 1500				
REGIONAL CERTIFI	CATIONS			
InMetro BIS MyHijau Buy American <i>F</i>	SII FSEC Act (BAA) Compliant			
EXTENDED DURAB	ILITY TESTS			
ANSI/CAN/CSA Long-Term Sequ Thresher Test PID Resistant				
QUALITY & EHS				
ISO 9001:2015 ISO 14001:201 ISO 45001:201 EPEAT Silver Re	L5 L8			

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MECHANICAL DESCRIPTION		
Length	2009mm	
Width	1232mm	
Thickness	49mm	
Area	2.47m ²	
Module Weight	34.5kg	
Leadwire ⁶	2.5mm ² , 720mm (+) & Bulkhead (-)	
Connectors	MC4-EVO 2 or TE Connectivity PV4-S	
Bypass Diode	N/A	
Cell Type	Thin film CdTe semiconductor, up to 264 cells	
Frame Material	Anodized Aluminum	
Front Glass	Heat strengthened	
Back Glass	Heat strengthened	
Encapsulation	Laminate material with edge seal	
Frame to Glass Adhesive	Silicone	
Load Rating ⁷	2400Pa	

PACKAGING INFORMATION					
Modules Per Pack	27	Pack Dimensions (L x W x H)	2200 x 1300 x 1164mm (86 x 51 x 45.8in)		
Packs per 40' Container	18	Pack Weight	1032kg		

IEC

- Measurement uncertainty applies
- Testing Certifications/Listings pending IEC 61730-1: 2016 Class II | ULC (Canada) 1703 1000V listed
- $^{\rm 6}$ Leadwire length from junction box exit to connector mating surface
- 1000Pa tentative design load rating for 1940mm mounting slots. Higher loads may be acceptable, subject

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