

**For a Free Quote:**

Web: [EnergyPal.com/solar](http://EnergyPal.com/solar)

Call: 1-800-990-3725

Email: [contact@energypal.com](mailto:contact@energypal.com)

# EnergyPal

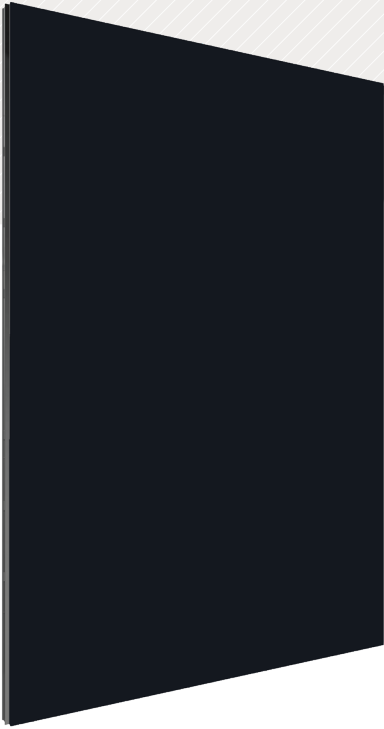
## **Solar Panel Guide Specification Data Sheet**

**First Solar, Inc.  
First Solar Series 6™  
6445**

Also available on the web at  
[EnergyPal.com/first-solar-inc-solar-panels/6445](http://EnergyPal.com/first-solar-inc-solar-panels/6445)

## 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.



**420-450 Watts**  
**17%+ Efficiency**



### 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



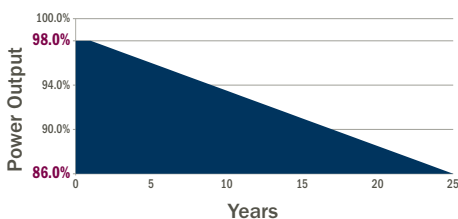
### INNOVATIVE MODULE DESIGN

- 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 snow-shedding benefits of a frameless module, protects edges against breakage and enables horizontal stacking

## INDUSTRY-LEADING MODULE WARRANTY<sup>1</sup>

**98.0%** 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

# FIRST SOLAR SERIES 6™

## MODEL TYPES AND RATINGS AT STANDARD TEST CONDITIONS (1000W/m<sup>2</sup>, AM 1.5, 25°C)<sup>2</sup>

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 <sup>3</sup> (-0/+5%)	P <sub>MAX</sub> (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 <sub>MAX</sub>	V <sub>MAX</sub> (V)	180.4	181.5	182.6	183.6	184.7	185.7	186.8
Current at P <sub>MAX</sub>	I <sub>MAX</sub> (A)	2.33	2.34	2.36	2.37	2.38	2.40	2.41
Open Circuit Voltage	V <sub>OC</sub> (V)	218.5	218.9	219.2	219.6	220.0	220.4	221.1
Short Circuit Current	I <sub>SC</sub> (A)	2.54	2.54	2.54	2.55	2.55	2.56	2.57
Maximum System Voltage	V <sub>SYS</sub> (V)	1500 <sup>5</sup>						
Limiting Reverse Current	I <sub>R</sub> (A)	5.0						
Maximum Series Fuse	I <sub>CF</sub> (A)	5.0						

## RATINGS AT NOMINAL OPERATING CELL TEMPERATURE OF 45°C (800W/m<sup>2</sup>, 20°C air temperature, AM 1.5, 1m/s wind speed)<sup>2</sup>

Nominal Power	P <sub>MAX</sub> (W)	317.2	320.9	324.7	328.5	332.4	336.0	339.9
Voltage at P <sub>MAX</sub>	V <sub>MAX</sub> (V)	168.7	169.8	170.9	172.0	173.1	174.1	175.2
Current at P <sub>MAX</sub>	I <sub>MAX</sub> (A)	1.88	1.89	1.90	1.91	1.92	1.93	1.94
Open Circuit Voltage	V <sub>OC</sub> (V)	206.3	206.6	207.0	207.3	207.7	208.0	208.8
Short Circuit Current	I <sub>SC</sub> (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 <sub>MAX</sub>	T <sub>K</sub> (P <sub>MAX</sub> )	-0.32%/°C [Temperature Range: 25°C to 75°C]	
Temperature Coefficient of V <sub>OC</sub>	T <sub>K</sub> (V <sub>OC</sub> )	-0.28%/°C	
Temperature Coefficient of I <sub>SC</sub>	T <sub>K</sub> (I <sub>SC</sub> )	+0.04%/°C	

## MECHANICAL DESCRIPTION

Length	2009mm
Width	1232mm
Thickness	49mm
Area	2.47m <sup>2</sup>
Module Weight	36kg
Leadwire <sup>6</sup>	2.5mm <sup>2</sup> , 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
Load Rating <sup>7</sup>	2400Pa

## 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	1051kg	Pallets per 40' Container	18

### Disclaimer

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.

The First Solar logo, First Solar™, and all products denoted with ® are registered trademarks, and those denoted with a ™ are trademarks of First Solar, Inc.

## CERTIFICATIONS AND TESTS

### IEC

61215:2016 & 61730-1:2016<sup>5</sup>, CE  
61701 Salt Mist Corrosion  
60068-2-68 Dust and Sand Resistance

### UL

UL 1703 Listed<sup>5</sup>

### REGIONAL CERTIFICATIONS

MCS SII  
InMetro<sup>4</sup> FSEC  
BIS<sup>4</sup> MyHijau

### EXTENDED DURABILITY TESTS

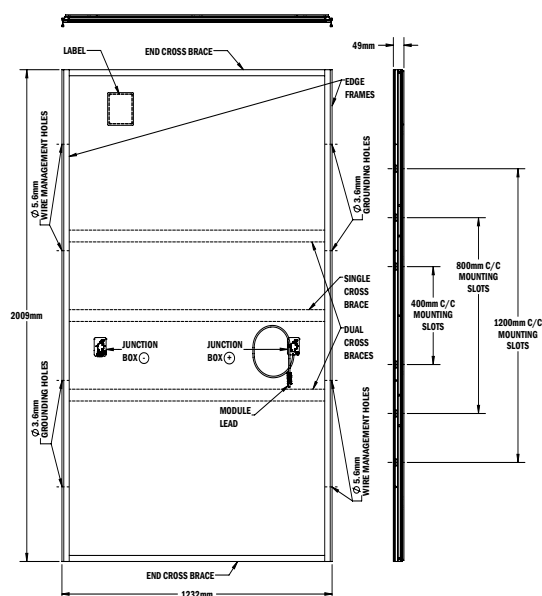
ANSI/CAN/CSA-C450-18  
Long-Term Sequential Thresher Test  
PID Resistant

### QUALITY & EHS

ISO 9001:2015 & 14001:2015  
OHSAS 18001:2007  
ISO 45001:2018



## MECHANICAL DRAWING



Install in portrait only

- Limited power output and product warranties subject to warranty terms and conditions
- All ratings ±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