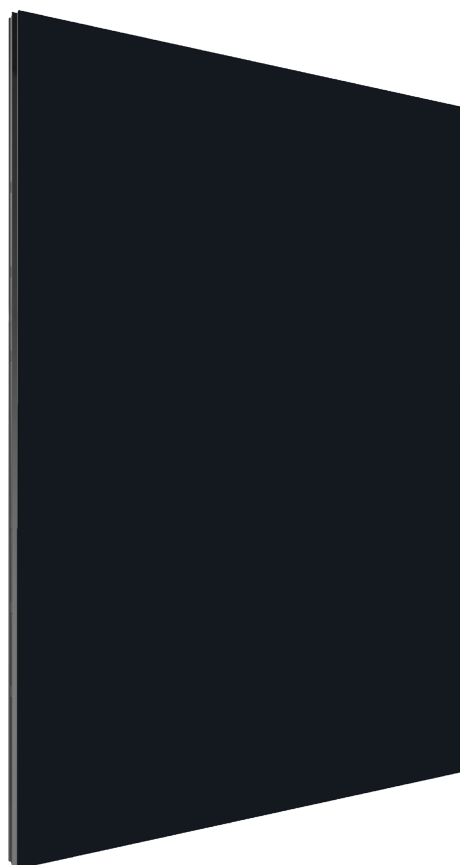




Series 6 *Plus* Bifacial.

455-480 Watt Thin Film Solar Module

First Solar is once again setting the industry benchmark for reliable energy production, optimized design and environmental performance with Series 6 *Plus* Bifacial - the world's first bifacial thin film CdTe module. The advanced design significantly reduces balance of system, shipping, and operating costs while delivering more energy per nameplate watt.



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 losses from LID or LeTID
- Anti-reflective coated glass enhances energy production
- Added bifacial energy yield



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 reduces wire management complexity and cost



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



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

19.0%
HIGH BIN EFFICIENCY

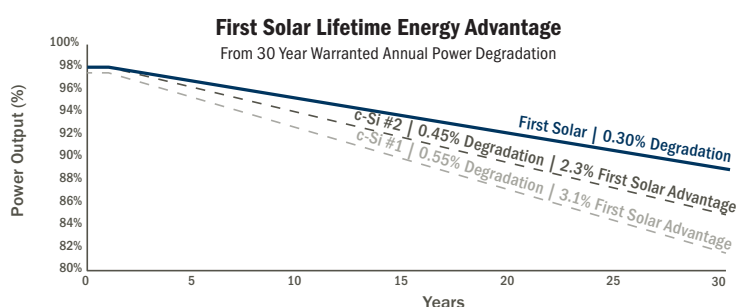
30YR
LINEAR PERFORMANCE
WARRANTY

98%
WARRANTY START POINT

0.3%
WARRANTED ANNUAL
DEGRADATION RATE¹



Learn more about First Solar
and Series 6 *Plus* Bifacial
at firstsolar.com/S6



Series 6 *Plus* Bifacial.



Electrical Specifications

RATINGS AT STANDARD TEST CONDITIONS (1000W/m², AM 1.5, 25°C)²

SERIES 6 PLUS BIFACIAL MODEL TYPES: FS-6XXX-P-B / FS-6XXXX-P-B (XXX = NOMINAL POWER)

| Nominal Power ³ (-0/+5%) | P _{MAX} (W) | 455 | | 460 | | 465 | | 470 | | 475 | | 480 | |
|--|----------------------|-------------------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | STC ⁴ | BNPI ⁵ | STC | BNPI | STC | BNPI | STC | BNPI | STC | BNPI | STC | BNPI |
| Nominal Power | P _{MAX} (W) | 455 | 464 | 460 | 469 | 465 | 474 | 470 | 479 | 475 | 485 | 480 | 490 |
| Voltage at P _{MAX} | V _{MAX} (V) | 187.8 | 187.8 | 188.8 | 188.8 | 189.8 | 189.8 | 191.1 | 191.1 | 191.5 | 191.5 | 192.8 | 192.8 |
| Current at P _{MAX} | I _{MAX} (A) | 2.42 | 2.47 | 2.44 | 2.49 | 2.45 | 2.50 | 2.46 | 2.50 | 2.48 | 2.53 | 2.49 | 2.54 |
| Open Circuit Voltage | V _{OC} (V) | 222.0 | 222.0 | 222.9 | 222.9 | 223.8 | 223.8 | 224.3 | 224.3 | 224.8 | 224.8 | 225.4 | 225.4 |
| Short Circuit Current | I _{SC} (A) | 2.58 | 2.63 | 2.59 | 2.64 | 2.60 | 2.65 | 2.61 | 2.66 | 2.61 | 2.66 | 2.62 | 2.67 |
| Efficiency (%) | % | 18.1 | | 18.3 | | 18.5 | | 18.7 | | 18.9 | | 19.0 | |
| Maximum System Voltage | V _{SYS} (V) | 1500 ⁶ | | | | | | | | | | | |
| Limiting Reverse Current | I _R (A) | 5.0 | | | | | | | | | | | |
| Maximum Series Fuse | I _{CF} (A) | 5.0 | | | | | | | | | | | |

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 |
| Nominal Operating Cell Temperature | °C | 43 |
| Bifaciality Factor | % | 15±5 |

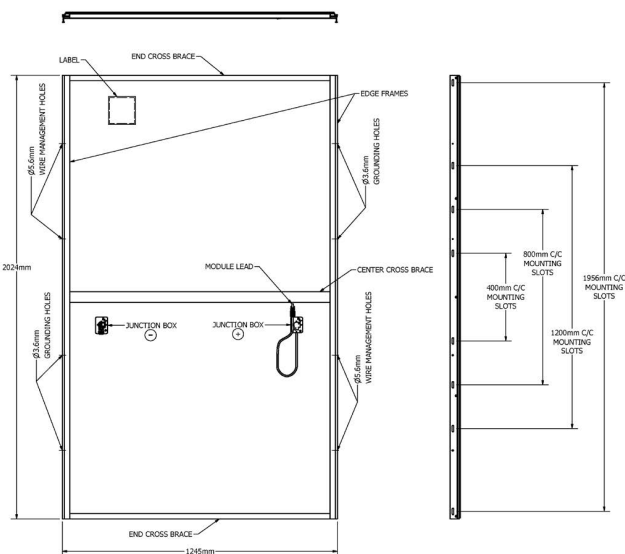
PACKAGING INFORMATION

| Model Type | Modules Per Pack | Packs per 40' Container |
|----------------------------|------------------|-------------------------|
| FS-6XXX-P-B / FS-6XXXX-P-B | 27 | 18 |

MECHANICAL DESCRIPTION

| | |
|--------------------------|---|
| Module/Glass Length | 2024mm/2016mm |
| Module/Glass Width | 1245mm/1216mm |
| Module/Glass Area | 2.52m ² /2.45m ² |
| Module Weight | 34.0kg |
| Leadwire ⁷ | 2.5mm ² , 733mm (+) & Bulkhead (-) |
| Connectors | TE Connectivity PV4-S, or alternate |
| Junction Box | IP68 Rated |
| Bypass Diode | N/A |
| Cell Type | Thin film CdTe semiconductor, up to 268 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 ⁸ | +/-2400Pa |

Mechanical Specifications



Install in portrait only

Certifications & Tests⁹

CERTIFICATIONS AND LISTINGS

IEC 61215:2021 & 61730-1:2016⁶, CE
IEC 61701 Salt Mist Corrosion
IEC 60068-2-68 Dust and Sand Resistance
UL 61730

EXTENDED DURABILITY TESTS

IEC TS 63209-1 Extended Stress Test
Long-Term Sequential
Thresher Test
PID Resistant

QUALITY & EHS

ISO 9001:2015
ISO 14001:2015
ISO 45001:2018
ISO 14064-3:2006
EPEAT Silver Registered

Disclaimer

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- 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
- Frontside electrical ratings
- Bifacial Name Plate Irradiance, as per IEC 61215:2021
- IEC 61730-1: 2016 Class II
- Leadwire length from junction box exit to connector mating surface
- 1500Pa tentative load rating for 1956mm mounting slots. Higher loads may be acceptable, subject to testing
- Testing Certifications/Listings pending