First Solar

Series 7 FT1.

505-550 Watt Thin Film Solar Module

Series 7 FT1 modules combine First Solar's thin film technology with a larger form factor and an innovative new back rail mounting system to deliver improved efficiency and unmatched lifetime energy performance for utility-scale PV projects.



19.7%
HIGH BIN EFFICIENCY

25YR
LINEAR PERFORMANCE WARRANTY

98%
WARRANTY START POINT

0.3%
WARRANTED ANNUAL DEGRADATION RATE[1]

Learn more about First Solar and Series 7 FT1 at firstsolar.com/S7

More Lifetime Energy per Nameplate Watt

- Industry's best (0.3%) warranted degradation rate
- Superior temperature coefficient, spectral, and shading response
- No power loss from LID or LeTID
- Anti-reflective coated glass enhances energy production

Innovative Module Design

- Optimized back rail mount design enhances installation velocity
- Frameless design improves soiling performance
- Dual junction box design reduces wire management complexity and cost

Unmatched Quality & Reliability

- End-to-end manufacturing process for globally consistent quality
- Tested and certified to IEC standards and beyond
- Durable glass/glass construction
- Immune to and warranted against power loss from cell cracking
- 10-year Limited Product Warranty

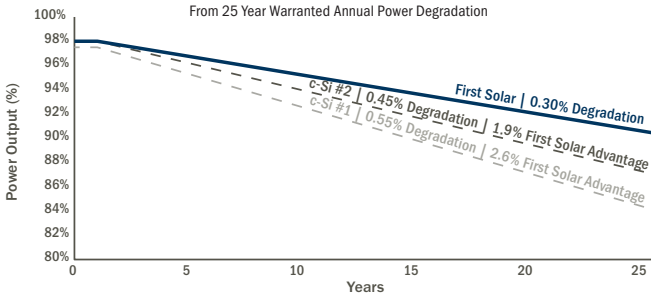
Industry's Most Eco-efficient PV Solution

- Industry leading carbon footprint, water footprint and energy payback time
- Globally available PV module recycling services

Domestically Manufactured

- Manufactured in India, for the Indian market
- ALMM enlisted, DRC eligible, and BIS compliant

First Solar Lifetime Energy Advantage
From 25 Year Warranted Annual Power Degradation



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Electrical Specifications

MODEL TYPES: FS-7XXXA-FT1 (XXX = NOMINAL POWER)
RATINGS AT STANDARD TEST CONDITIONS (1000W/m², AM 1.5, 25°C)[2]

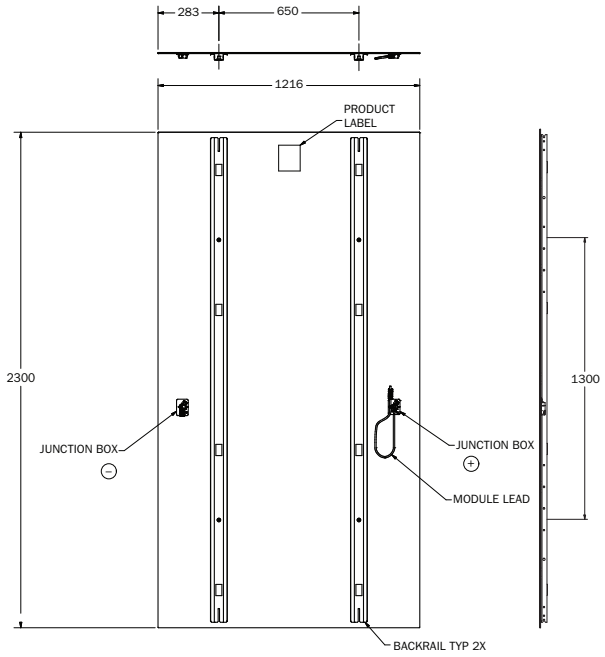
Nominal Power[3] (-0/+5%)	P_{MAX} (W)	505	510	515	520	525	532	535	540	545	550
Efficiency (%)	%	18.1	18.3	18.4	18.6	18.8	19.0	19.1	19.3	19.5	19.7
Cell Efficiency (%)	%	18.9	19.1	19.3	19.5	19.7	20.0	20.1	20.3	20.4	20.6
Voltage at P_{MAX}	V_{MAX} (V)	182.5	183.4	184.3	185.2	186.0	187.3	187.8	188.7	189.6	190.4
Current at P_{MAX}	I_{MAX} (A)	2.77	2.78	2.80	2.81	2.82	2.84	2.85	2.86	2.88	2.89
Open Circuit Voltage	V_{OC} (V)	223.9	224.5	225.0	225.6	226.1	226.9	227.2	227.7	228.2	228.8
Short Circuit Current	I_{SC} (A)	3.01	3.02	3.03	3.04	3.04	3.05	3.06	3.06	3.07	3.08
Maximum System Voltage	V_{SYS} (V)	1500[5]									
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	45

MECHANICAL DESCRIPTION	
Length	2300mm
Width	1216mm
Area	2.80m²
Module Weight	36.8 kg
Leadwire[6]	2.5mm², 500mm (+) & 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
Back Rail Material	ZnAlMg coated steel
Front Glass	Heat strengthened
Back Glass	Heat strengthened
Encapsulation	Laminate material with edge seal
Frame to Glass Adhesive	Silicone
Load Rating	2400Pa

PACKAGING INFORMATION		
Model Type	Modules Per Pack	Packs per 12m Container
FS-7XXXA-FT1	48	10

Mechanical Specifications



Certifications & Tests[4]

CERTIFICATIONS AND LISTINGS	EXTENDED DURABILITY TESTS	QUALITY & EHS
IEC 61215:2021 & 61730-1:2016[5],CE	IEC TS 63209-1 Extended Stress Test	ISO 9001:2015
IEC 61701 Salt Mist Corrosion	Long-Term Sequential	ISO 14001:2015
IEC 60068-2-68 Dust and Sand Resistance	Thresher Test	ISO 45001:2018
IEC 62716 Ammonia Corrosion	PID Resistant	ISO 14064-3:2006
UL 61730 1500V Listed		EPEAT Silver Registered
BIS		

Install in portrait only

1 Limited power output and product warranties subject to warranty terms and conditions
2 All ratings ±10%, unless specified otherwise. Specifications are subject to change
3 Measurement uncertainty applies
4 Testing Certifications/Listings pending
5 IEC 61730-1: 2016 Class II
6 Leadwire length from junction box exit to connector mating surface

Disclaimer

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