

SF-M21/80

405-420W

210 ± 1.5 × 105 ± 1.5mm

Cells 80

Bifacial Single Glass

PERC Half-Cell Module

Max Power Out: 420W

Max Efficiency: 21.85%

Power Tolerance: 0~+5W



SMBB Technology

Better light trapping and current collection to improve module power output and reliability



Reduced Hot Spot Loss

Optimized electrical design and lower operating current for reduced hot spot loss and better temperature coefficient.



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.



Enhanced Mechanical Load

Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).



Durability Against Extreme Environmental Conditions

High salt mist and ammonia resistance.

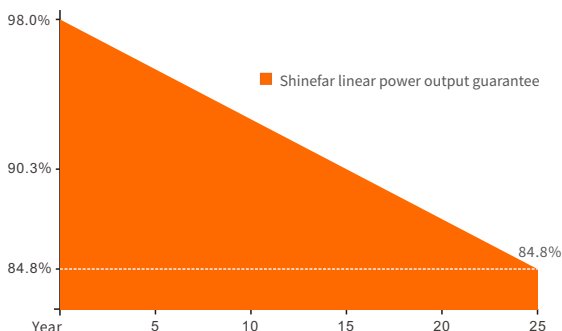


High Energy Generation, Low LCOE

Low Pmax temp coefficient increases energy production

Superior Warranty

- 15-year material & technology warranty
- 25-year linear power output warranty

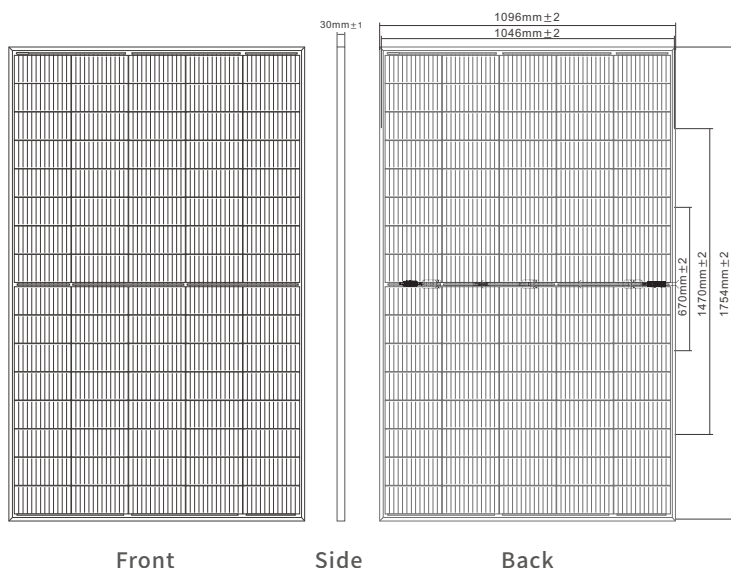


Comprehensive Products and System Certificates

- IEC/EN61215-1:2021 & IEC/EN61215-2:2021
- IEC/EN61730-1:2016 & IEC/EN61730-2:2016
- UL61730-1:2017 & UL61730-2:2017
- UL61215-1:2017 & UL61215-2:2017
- IEC 61701:2020-Saltmist
- IEC 62716:2013-Ammonia
- IEC 62804:2020-PID
- IECEE Certificate Body (CB)
- UKCA:EN61730-2018
- ISO9001 & ISO14001 & ISO45001



Engineering Drawings



Structural Parameter

Dimensions of Module	1754 × 1096 × 30mm
Weight	21.0kg
Packing	37PCS/Pallet, 1001PCS/40HQ
Front Glass	High Transparency Solar Glass 3.2mm
Back Glass	Transparent or Transparent Grid
Frame	Anodized Aluminum Alloy & Custom Color Accepted
J-Box	IP68 Rated
Cable	4.0mm ² , 300mm
Bypass Diodes	3PCS
Wind/ Snow Load	2400Pa/5400Pa
Connector	MC4 Compatible

Electrical Specification

(STC: Irradiance 1000W/m², Cell temperature 25°C, AM1.5G — NOCT: Irradiance 800W/m², Ambient temperature 20°C, Wind speed 1m/s)

Module Type	SF-M21/80405		SF-M21/80410		SF-M21/80415		SF-M21/80420	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax) [W]	405	306.02	410	309.80	415	313.57	420	317.35
Maximum Power Voltage (Vmp) [V]	23.29	21.78	23.49	21.98	23.69	22.18	23.89	22.38
Maximum Power Current (Imp) [A]	17.39	14.05	17.45	14.09	17.52	14.14	17.58	14.18
Open Circuit Voltage (Voc) [V]	27.87	26.10	28.07	26.30	28.27	26.50	28.47	26.71
Short Circuit Current (Isc) [A]	18.55	14.97	18.62	15.02	18.67	15.05	18.74	15.10
Module Efficiency [%]	21.07		21.33		21.59		21.85	
Cell Type [mm]	Mono 210 ± 1.5 × 105 ± 1.5, 80 Cells							
Operational Temperature [°C]	-40 ~ +85°C							
Maximum System Voltage	1500V DC							
Max Series Fuse Rating	30A							

Electrical Characteristics With Different Power Bin (Reference to 10% Irradiance Ratio)

Parameter	433.35	438.70	444.05	449.40
Total Equivalent Power (Pmax) [Wp]	433.35	438.70	444.05	449.40
Maximum Power Voltage (Vmp) [V]	23.29	23.49	23.69	23.89
Maximum Power Current (Imp) [A]	18.61	18.68	18.74	18.81
Open Circuit Voltage (Voc) [V]	27.87	28.07	28.27	28.47
Short Circuit Current (Isc) [A]	19.85	19.92	19.98	20.05
Irradiance Ratio (Rear/Front)	10%			

Temperature Ratings

Nominal Operating Cell Temperature	45 ± 2°C
Temperature Coefficient of Isc	+0.06%/°C
Temperature Coefficient of Voc	-0.30%/°C
Temperature Coefficient of Pmax	-0.39%/°C

Curve Diagram

