

# SF-M15L/G156

## 440-455W

### 158.75 × 79.375mm cells 78



### Bifacial Double Glass

### PERC Half-Cell Module

Max Power out: 455W

Max Efficiency: 20.91%

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.

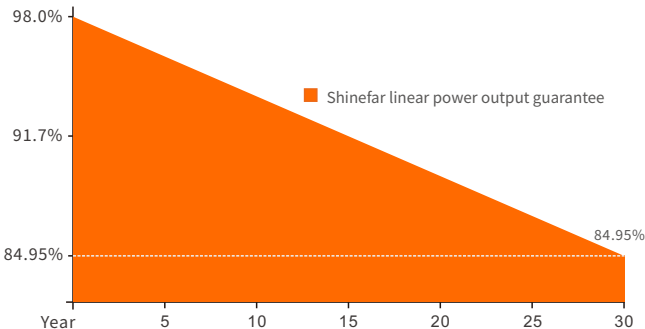


#### High energy generation, low LCOE

Low Pmax temp coefficient increases energy production

### Superior Warranty

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

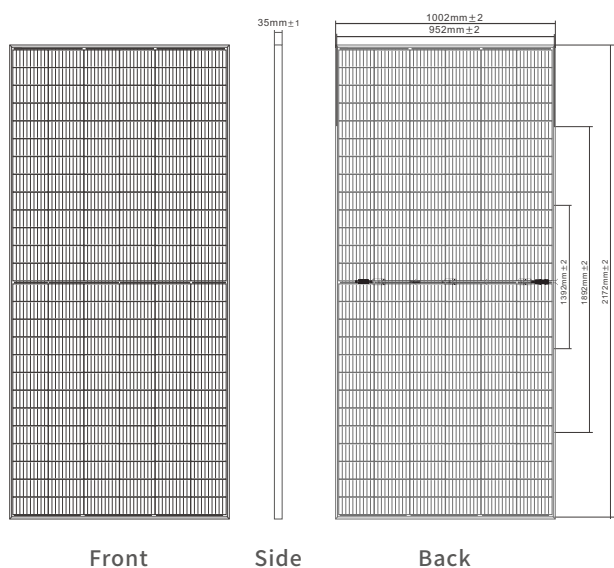


### Comprehensive Products and System Certificates

- 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
- IECCE CertificateBody (CB)
- UKCA:EN61730-2018
- ISO9001 & ISO14001 & ISO45001



## Engineering Drawings



## Structural Parameter

Dimensions of Module	2172×1002×35mm
Weight	28kg
Packing	31/pallet, 738/40hq
Front Glass	High Transparency Solar Glass 2.0mm
Back Glass	Heat Strengthened Glass 2.0mm
Frame	Anodized aluminum alloy & Custom color accepted
J-Box	IP68 Rated
Cable	4.0mm <sup>2</sup> , 300mm
Bypass Diodes	3pcs
Wind/ Snow Load	2400Pa/5400Pa
Connector	MC4 Compatible

## Electrical Specification

(STC: Irradiance 1000W/m<sup>2</sup>, cell temperature 25°C, AM1.5G — NOCT: Irradiance 800W/m<sup>2</sup>, Ambient temperature 20°C, Wind speed 1m/s)

Module Type	SF-M15L/G156440		SF-M15L/G156445		SF-M15L/G156450		SF-M15L/G156455	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax) [W]	440	326.48	445	330.19	450	333.90	455	337.61
Maximum Power Voltage (Vmp) [V]	44.07	40.99	44.27	41.17	44.47	41.36	44.67	41.54
Maximum Power Current (Imp) [A]	9.98	7.97	10.05	8.02	10.12	8.07	10.19	8.13
Open Circuit Voltage (Voc) [V]	53.29	49.56	53.49	49.75	53.69	49.93	53.89	50.12
Short Circuit Current (Isc) [A]	10.44	8.33	10.49	8.37	10.55	8.42	10.60	8.46
Module Efficiency [%]	20.22		20.45		20.68		20.91	
Cell Type [mm]	Mono 158.75×79.375, 156 cells							
Operational Temperature [°C]	-40~+85°C							
Maximum System Voltage	1500V DC							
Max Series Fuse Rating	15A							

## Electrical characteristics with different power bin (reference to 10% Irradiance ratio)

	484	490	495	501
Total Equivalent power (Pmax) [Wp]	484	490	495	501
Maximum Power Voltage (Vmp) [V]	44.07	44.27	44.47	44.67
Maximum Power Current (Imp) [A]	10.98	11.06	11.13	11.20
Open Circuit Voltage (Voc) [V]	53.29	53.49	53.69	53.89
Short Circuit Current (Isc) [A]	11.48	11.54	11.60	11.66
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

