



**Tier1**

BloombergNEF

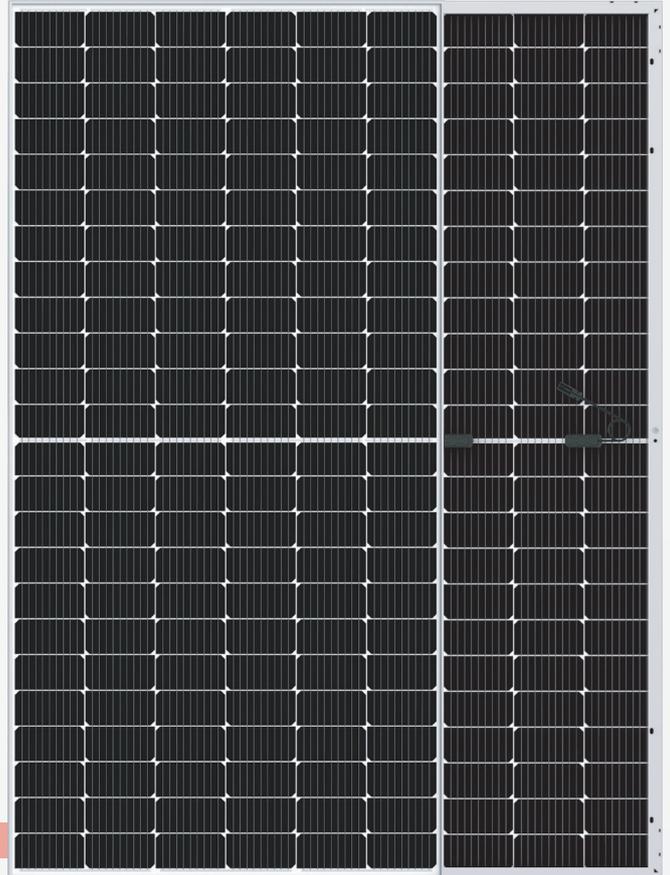
*Power the future*

# PERC BIFACIAL

# 435-460W

High efficiency bifacial modules

· Silver frame, White mesh



UTILITY

C&I

## Module efficiency

# 21.16%



**Better leveled cost of energy**



**Better high temperature stability**



**Improved low-light performance**



**Excellent bifacial performance**

Linear performance guarantee for 30 years



## WARRANTY

Quality Guarantee **15 years**

Power Warranty **30 years**

## CERTIFICATE



Model of modules	SPDG435-144M		SPDG440-144M		SPDG445-144M		SPDG450-144M		SPDG455-144M		SPDG460-144M	
	STC	NMOT										
Power ( Pmax/W )	435	327	440	331	445	335	450	338	455	342	460	346
Maximum power voltage ( Vmp )	40.70	38.30	40.80	38.40	40.90	38.50	41.00	38.50	41.10	38.70	41.20	38.80
Maximum power current ( Imp )	10.69	8.54	10.79	8.61	10.89	8.70	10.98	8.78	11.08	8.85	11.17	8.91
Open circuit voltage ( Voc )	49.50	46.50	49.60	46.60	49.70	46.70	49.80	46.80	49.90	46.90	50.00	47.00
Short circuit current ( Isc )	11.23	9.07	11.34	9.16	11.45	9.24	11.56	9.33	11.65	9.40	11.69	9.44
Module efficiency	20.01%		20.24%		20.47%		20.70%		20.93%		21.16%	

STC ( Electrical parameters at standard test conditions. STC:AM=1.5, 1000W/m<sup>2</sup> ,Cells Temperature25°C )

NMOT ( Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C,AM1.5,Wind Speed 1m/s )

**ELECTRICAL CHARACTERISTICS WITH 15% REAR SIDE POWER GAIN**

Front power Pmax/W	500.25	506	511.75	517.5	523.25	529
Maximum power voltage ( Vmp )	40.70	40.80	40.90	41.00	41.10	41.20
Maximum power current ( Imp )	12.29	12.40	12.51	12.62	12.73	12.84
Open circuit voltage ( Voc )	49.50	49.60	49.70	49.80	49.90	50.00
Short circuit current ( Isc )	12.92	13.04	13.17	12.29	13.40	13.44

**STRUCTURAL CHARACTERISTICS**

Module size (L*W*H)	2094x1038x35mm
Weight	26.1kg
Cell	144 cells,Mono-Crystalline PERC,166mm x 83mm
Front glass	2.0mm ultra clear embossed semi-tempered coated glass
Back glass	2.0mm white mesh semi-tempered glass
Frame	Anodized aluminum alloy
Junction box	IP68
Output wire	4mm <sup>2</sup>
Wire length	Line length 1300mm
Connector	MC4 Compatible IP68
Packing Specification	33 pcs/Pallet ; 726 pcs/40' HQ

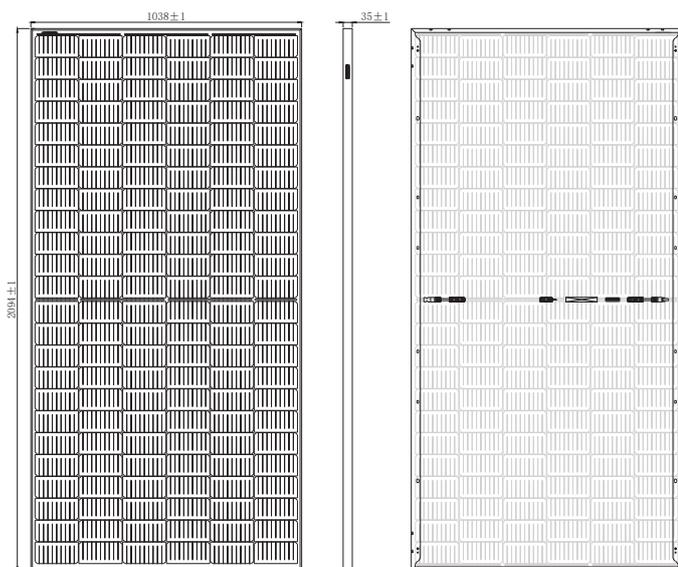
**OPERATING PARAMETERS**

Power tolerance (W)	(0~+5W)
Maximum system voltage (V)	1500V(TÜV)
Maximum rated fuse current (A)	25A
Current operating temperature (C)	-40~+85°C
Mechanical load	+5400Pa/-2400Pa

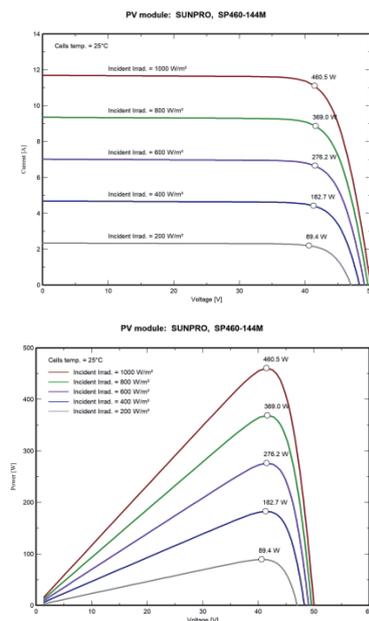
**TEMPERATURE CHARACTERISTICS**

Temp. Coeff. of Isc (TK Isc)	0.05% / °C
Temp. Coeff. of Voc (TK Voc)	-0.29% / °C
Temp. Coeff. of Pmax (TK Pmax)	-0.34% / °C
Normal Operating Cell Temperature	44±2°C

**MODULE DIMENSIONS(MM)**



**I-V CHARACTERISTICS AT DIFFERENT IRRADIATION**



**Zhejiang Sunpro Power Technology Co., Ltd**

Add: Qinggang Industrial Zone, Yuhuan City, Zhejiang Province

Tel: +86 0576-80730906 E-mail: info@sunpropower.com Website: www.sunpropower.com

\*The above parameters are for reference only, and the actual parameters of the factory shall prevail