

Tier1

BloombergNEF

186.8R TOPCon BIFACIAL 435-450W

High efficiency bifacial modules



Module efficiency

22.52%



WITHSTAND STRONG



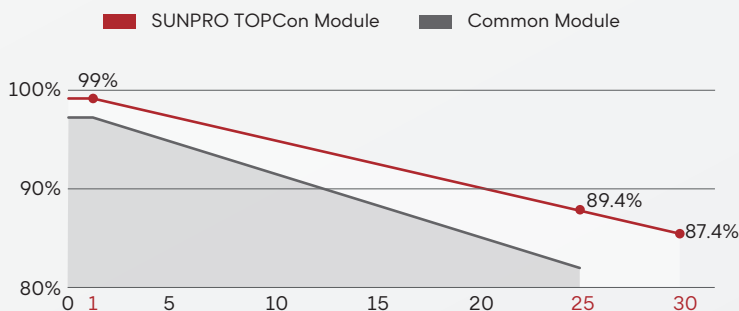
PID RESISTANCE



AUTOMATIC PRODUCTION



HIGH EFFICIENCY



WARRANTY

Quality Guarantee **25 years**

Power Warranty **30 years**

CERTIFICATE



ELECTRIC CHARACTERISTICS

SPDG (435/450W)-N108R10

Model of modules	SPDG435-N108R10		SPDG440-N108R10		SPDG445-N108R10		SPDG450-N108R10	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Power (Pmax/W)	435	328.60	440	332.40	445	336.50	450	340.30
Maximu power current (Vmp)	32.41	30.8	32.60	31	32.79	31.2	32.98	31.3
Maximu power current (Imp)	13.43	10.68	13.50	10.73	13.58	10.8	13.65	10.86
Open circuit voltage (Voc)	39.09	36.9	39.27	37.1	39.45	37.3	39.63	37.5
Short circuitcurrent (Isc)	13.98	11.27	14.05	11.32	14.13	11.39	14.21	11.45
Module efficiency	21.77%		22.02%		22.27%		22.52%	

STC (Electrical parameters at standard test conditions (STC:AM=1.5, 1000W/m², Cells Temperature25°C)

NMOT (Irradiance 800W/m², Ambient Temperature 20°C,AM1.5,Wind Speed 1m/s)

ELECTRICAL CHARACTERISTICS WITH 15% REAR SIDE POWER GAIN

Front power Pmax/W	500.25	506.00	511.75	517.50
Maximu power voltage (Vmp)	32.41	32.60	32.79	32.98
Maximu power current (Imp)	15.44	15.52	15.61	15.69
Open circuit voltage (Voc)	39.09	39.27	39.45	39.63
Short circuitcurrent (Isc)	16.08	16.16	16.25	16.34

STRUCTURAL CHARACTERISTICS

Module size (L*W*H)	1762x1134x30mm
Weight	23.8kg
Cell	108 cells,N type Mono-Crystalline , 182mm×93.4mm
Front glass	2.0mm , Anti-Reflection Coating
Back glass	2.0mm , Heat Strengthened Glass
Frame	Anodized aluminum alloy
Junction box	IP68 , 3 bypass diodes
Output wire	4mm ²
Wire length	Line length 1100mm/customized
Connector	MC4 Compatible
Packing Specification	36 pcs/Pallet ; 936pcs/40' HQ

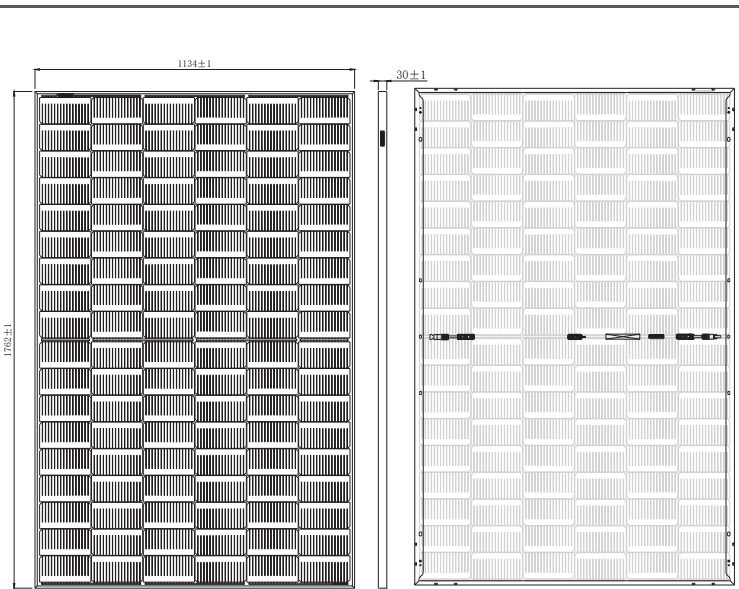
OPERATING PARAMETERS

Power tolerance (W)	(0~+5W)
Maximum system voltage (V)	1500V
Maximum rated fuse current (A)	30A
Current operating temperature (C)	-40~+85°C
Mechanical load	+5400Pa/-2400Pa

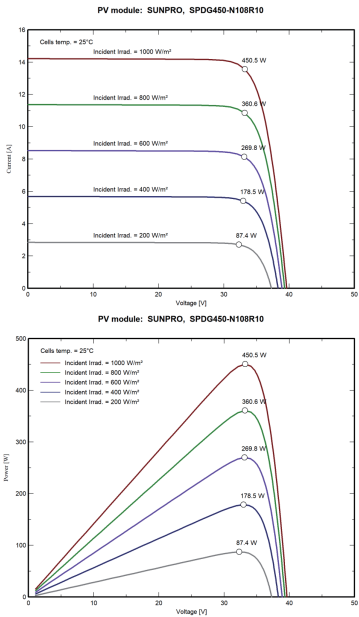
TEMPERATURE CHARACTERISTICS

Temp. Coeff. of Isc (TK Isc)	0.046% / °C
Temp. Coeff. of Voc (TK Voc)	-0.25% / °C
Temp. Coeff. of Pmax (TK Pmax)	-0.30% / °C
Normal Operting Cell Temperature	45±2°C

MODULE DIMENSIONS(MM)



I-V CHARACTERISTICS AT DIFFERENT IRRADIATION



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