



Tier1

BloombergNEF

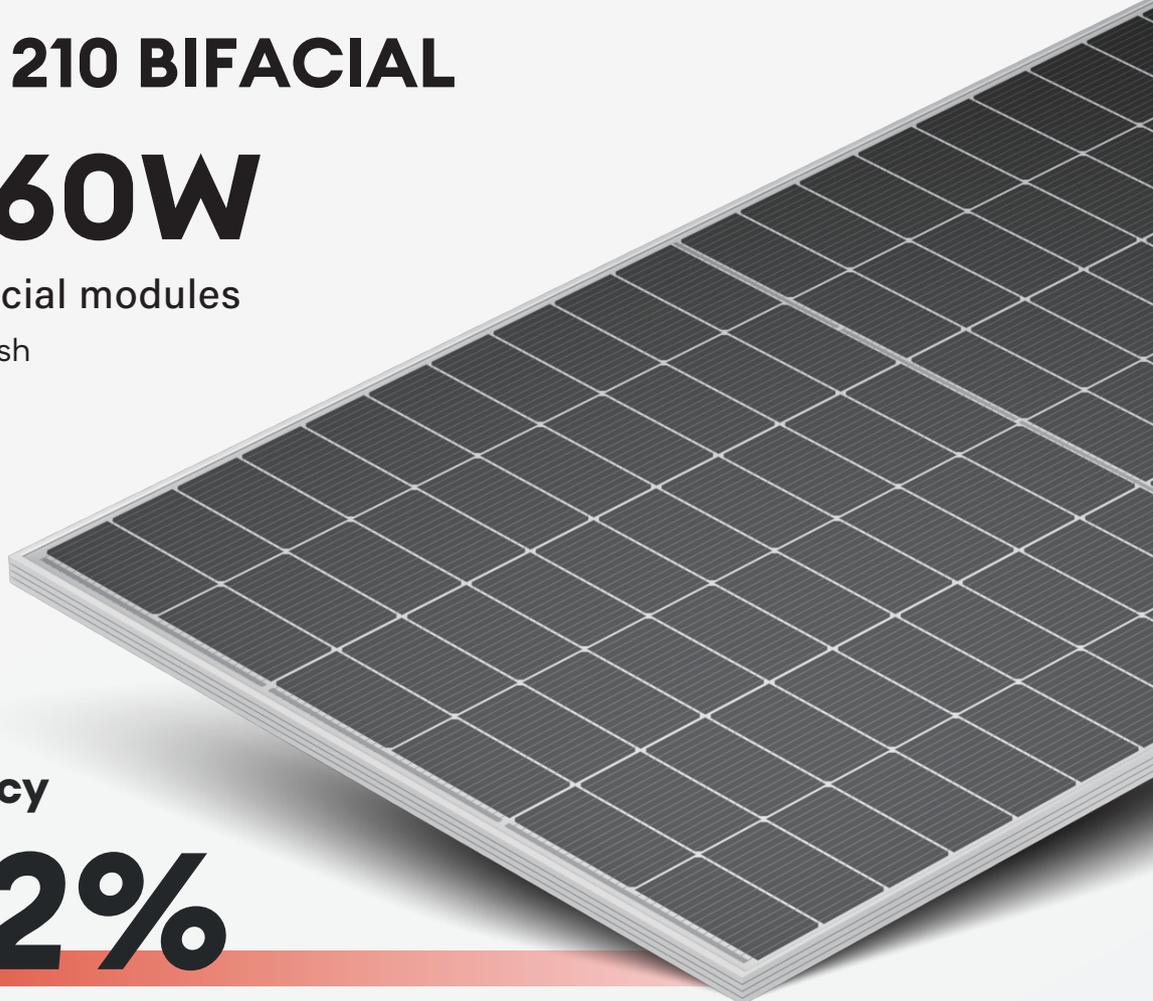
Power the future

TOPCon 210 BIFACIAL

645-660W

High efficiency bifacial modules

· Silver frame, White mesh



 UTILITY

 C&I

Module efficiency

23.32%



Better leveled cost of energy



Better high temperature stability

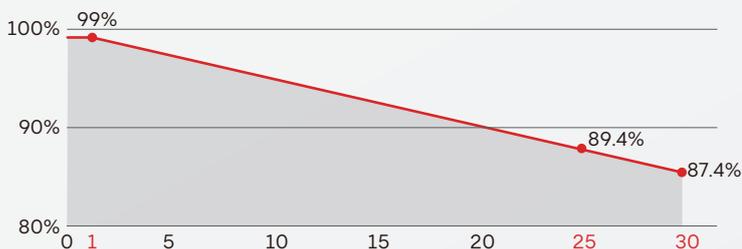


Improved low-light performance



Excellent bifacial performance

Linear performance guarantee for 30 years



WARRANTY

Quality Guarantee **25 years**

Power Warranty **30 years**

CERTIFICATE



ELECTRIC CHARACTERISTICS

SPDG (645/660W)-N120M12

Model of modules	SPDG645-N120M12		SPDG650-N120M12		SPDG655-N120M12		SPDG660-N120M12	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Power (Pmax/W)	645	488.30	650	491.10	655	495.2	660	499.3
Maximum power voltage (Vmp)	37.09	34.70	37.3	34.90	37.5	35.1	37.7	35.3
Maximum power current (Imp)	17.39	14.05	17.43	14.08	17.47	14.1	17.51	14.13
Open circuit voltage (Voc)	44.05	41.80	44.28	41.90	44.52	42.2	44.75	42.4
Short circuit current (Isc)	18.45	14.84	18.48	14.87	18.51	14.89	18.54	14.92
Module efficiency	22.79%		22.97%		23.14%		23.32%	

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	741.75	747.50	753.25	759.00
Maximum power voltage (Vmp)	37.09	37.30	37.50	37.70
Maximum power current (Imp)	20.00	20.04	20.09	20.13
Open circuit voltage (Voc)	44.05	44.28	44.52	44.75
Short circuit current (Isc)	21.22	21.25	21.29	21.32

STRUCTURAL CHARACTERISTICS

Module size (L*W*H)	2172x1303x35mm
Weight	34.2kg
Cell	120 cells,N type Mono-Crystalline , 210mm×105mm
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 1300mm/customized
Connector	MC4 Compatible
Packing Specification	31 pcs/Pallet ; 558 pcs/40' HQ

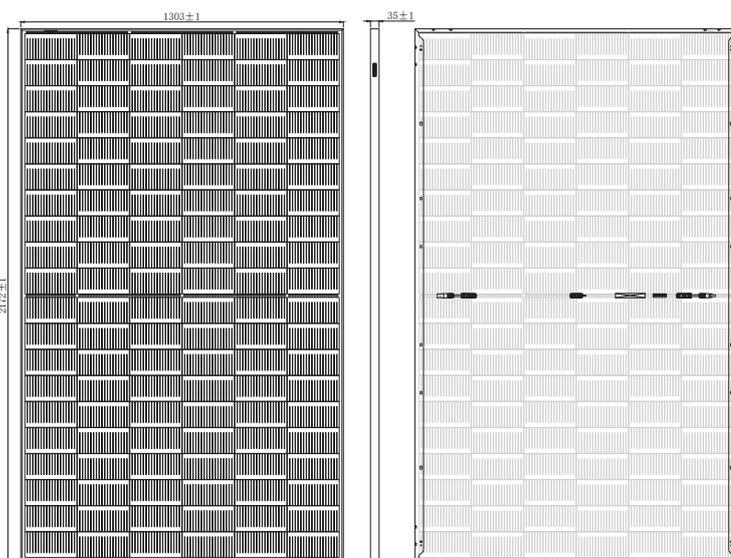
OPERATING PARAMETERS

Power tolerance (W)	(0~+5W)
Maximum system voltage (V)	1500V
Maximum rated fuse current (A)	35A
Current operating temperature (C)	-40~+85°C
Mechanical load	+5400Pa/-2400Pa

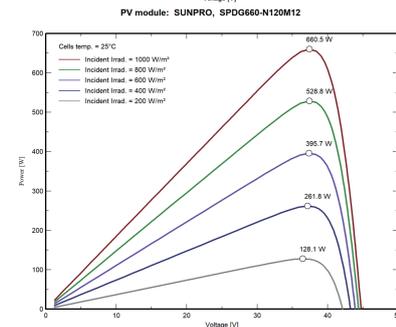
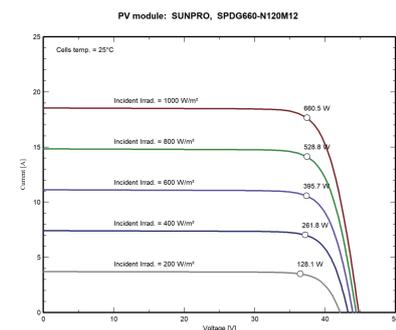
TEMPERATURE CHARACTERISTICS

Temp. Coeff. of Isc (TK Isc)	0.045% / °C
Temp. Coeff. of Voc (TK Voc)	-0.25% / °C
Temp. Coeff. of Pmax (TK Pmax)	-0.30% / °C
Normal Operating 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