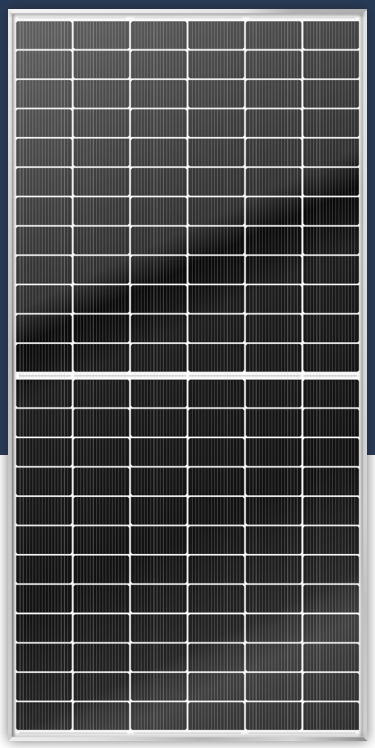
SUNGOLDPOWER

N-Type High efficiency

Bifacial Dual Glass Module

SGN-590-BDG1



Bifacial technology allows for the harvesting of up to an additional 30% energy from the rear side of the module.

30 years lifespan brings 10-30% additional power generation comparing with conventional P-type module.

LID

N-type solar cell has no LID naturally which can increase power generation.

Excellent low irradiance performance.

Enhanced light trapping and optimized current collection contribute to the improvement of both output and reliability.

Industry leading lowest thermal coefficient of power.

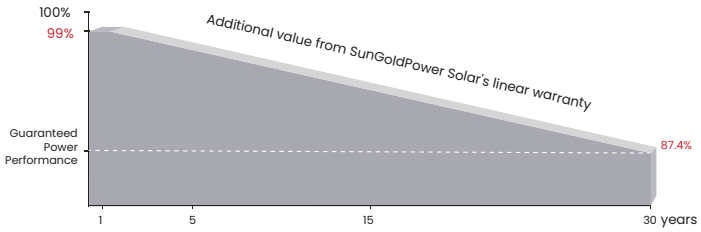
Design optimized for lower operating current, resulting in minimized hot spot loss and improved temperature coefficient.

2400Pa/5400Pa

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

100% triple EL test enables remarkable reduction of module hidden crack rate.

LINEAR PERFORMANCE WARRANTY



12 years
Product quality & process warranty

30 years
Linear power warranty

0.40 %
Annual degradation Over 30 years

COMPREHENSIVE CERTIFICATES

Intertek

ISO 9001: Quality Management System

ISO 14001: Environmental Management System Standard

ISO 45001: International Occupational Health and Safety Assessment System Standard

* Different markets have different certification requirements. Also, the products are under rapid innovation. Please confirm the certification status with regional sales representatives.

ELECTRICAL CHARACTERISTICS

2×72cells

Model of modules	SGN-590-BDG1	
	STC	NMOT
Peak power - P_{mp} (W)	590	452
Open circuit voltage - V_{oc} (V)	52.35	50.12
Short circuit current - I_{sc} (A)	13.90	11.20
MPP voltage - V_{mp} (V)	44.40	42.51
MPP current - I_{mp} (A)	13.29	10.63
Module efficiency - η_m (%)	22.8	

STC (Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25 ℃ , Spectra at AM1.5
NMOT (Nominal Module Operating Temperature): Irradiance 800W/m², Ambient Temperature 20℃ , Spectra at AM1.5, Wind at 1m/s

ELECTRICAL CHARACTERISTICS WITH DIFFERENT POWER BIN (REFERENCE TO 13.5% IRRADIANCE RATIO)

Peak power - P_{mp} (W)	654
Open circuit voltage - V_{oc} (V)	52.35
Short circuit current - I_{sc} (A)	15.40
MPP voltage - V_{mp} (V)	44.40
MPP current - I_{mp} (A)	14.72
Irradiance ratio (rear/front)	13.5%

STRUCTURAL CHARACTERISTICS

Module dimension (L*W*H)	89.69 x 44.65 x 1.38 inch (2278 x 1134 x 35 mm)
Weight	69.45 lbs (31.5 kg)
Number of cells	144 cells
Cell	N-type monocrystalline (M10)
Front Glass	2.0mm, Anti-Reflection Coating
Back Glass	2.0mm, Heat Strengthened Glass
Frame	Anodized aluminum alloy
Junction box	IP68 rated (3 diodes)
Output wire	4mm² (IEC),12 AWG (UL)
Wire length (Including Connector)	+400/-200mm (+15.75/-7.87in.)or customized
Connector	MC4 Compatible
Pieces per Pallet	31 pcs/Pallet
Pieces per Container (Normal/Weight-limited area)	720/576 pcs/40'HQ

OPERATING PARAMETERS

Power tolerance (W)	(0,+5)
Maximum system voltage (V)	1500
Maximum rated fuse current (A)	30
Current operating temperature (°C)	-40~+185 °F (-40~+85 °C)
Bifaciality	80±10 %
Fire performance	Type 29

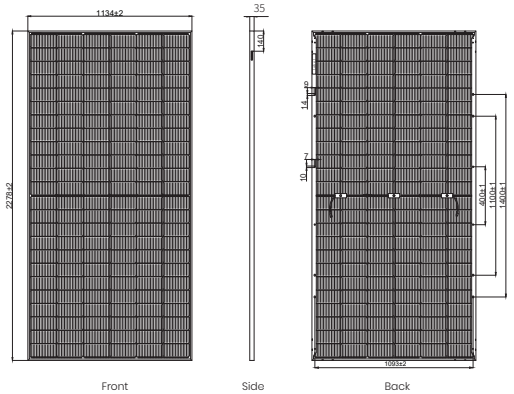
MECHANICAL LOADING

Front side maximum static loading (Pa)	5400
Rear side maximum static loading (Pa)	2400
Hailstone test (mm)	40

TEMPERATURE RATINGS

Temperature coefficient (P_{max})	-0.29 %/K
Temperature coefficient (V_{oc})	-0.28 %/K
Temperature coefficient (I_{sc})	+0.04 %/K
Nominal Module Operating Temperature	109.4±35.6 °F (43±2 °C)

MODULE DIMENSIONS (MM)



* The unmarked tolerance is ±1 mm
Length shown in mm