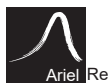


S465M54NF3BFB S470M54NF3BFB S475M54NF3BFB

Shinson is a leading professional supplier in the renewable energy industry, specializing in the production and distribution of high-quality PV modules, completed PV kits, and energy storage solutions. With a commitment to sustainable energy solutions, we strive to provide innovative and reliable products to meet the growing global demand for clean and efficient power generation.

With a focus on quality, innovation, and customer satisfaction, we strive to empower individuals, businesses, and communities with reliable and sustainable energy solutions. By harnessing the power of the sun and embracing renewable energy, we are driving the transition towards a greener and more sustainable future.

S-Nano™ series of PV modules are designed for residential and small commercial installations with compact sizes and aesthetic appearances.



Roofing Aesthetics

S-Nano™ series has been designed with aesthetic in mind, the ultra black color looks well integrated to roofing ,creates on modern and improved aesthetic.



Higher efficiency ,Lower weight

Built with latest technology of TOPcon solar cells, the module efficiency can be up to 23.52%.



Longer life span with 30 years warranty

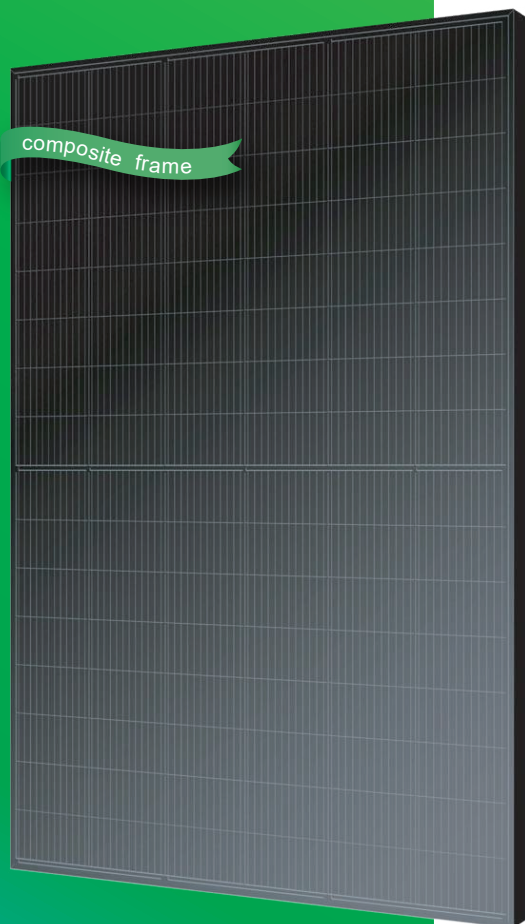
With double glassed and bifacial technology, shinson extended the warranty period up to 30 years for both performance and workmanship which is on top level of the industry.



Lower power degradation with more generation

Ensured PID resistance through cell process and module material control to help harvest more, guaranteed only 0.4% annual power degradation.

S. nano[™] Solar Modules N-TOPcon Bifacial / Ultra Black



Electrical Data (STC)

Part Number	S465M54NF3BFB	S470M54NF3BFB	S475M54NF3BFB
Peak Power Watts- $P_{MAX}(Wp)^*$	465	470	475
Power Output Tolerance	0/+5W		
Open Circuit Voltage- $V_{oc}(V)$	35.57	36.74	36.91
Short Circuit Current- $I_{sc}(A)$	15.81	15.86	15.91
Maximum Power Voltage- $V_{MPP}(V)$	30.94	31.17	31.39
Maximum Power Current- $I_{MPP}(A)$	15.03	15.08	15.13
Panel Efficiency(%)	23.27	23.52	23.77

STC :Irradiance 1000w/m²,Cell Temperature 25°C *Mearsure tolerance:±3%

Electrical Data (BNPI)

Maximum Power (P_{max}/w)	515	521	526
Maximum Power Current (I_{mp}/A)	16.65	16.71	16.76
Maximum Power Voltage (V_{mp}/V)	30.94	31.17	31.39
Short-circuit Current (I_{sc}/A)	17.52	17.57	17.63
Open-circuit Voltage (V_{oc}/V)	35.57	36.74	36.91

Mechanical Data

Panel Dimension(H/W/0)	1762*1134*30mm
Weight	19.8kg
Cell Type	N-Topcon cells
Cell Size	182x91 mm
Cell Number	108
Glass	2.0+2.0mm Tempered AR coating Glasses
Encapsulant Type	POE
Frame Type	Composite Frame
Junction Box Diodes	3
Junction Box Protection Class	IP68
Connector Type	MC4-EVO2 / MC4 compatible
Cable	1x4mm ² ,(+) : 300mm , (-) : 200mm or Customized Length

Temperature Ratings

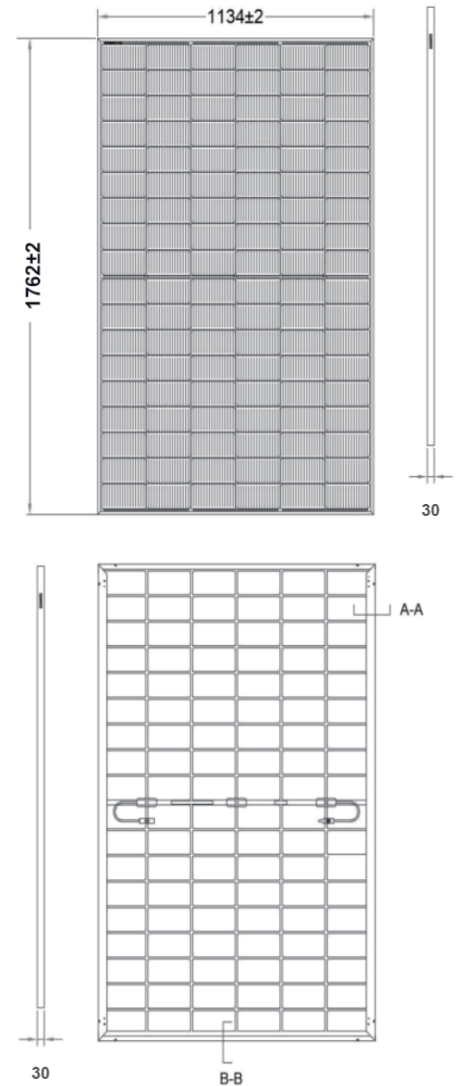
Nominal Operating Cell Temp.(NOCT)	42±2°C
Temperature Coefficient of P_{MAX}	-0.310%/°C
Temperature Coefficient of V_{oc}	-0.26%/°C
Temperature Coefficient of I_{sc}	0.046%/°C

* Do not connect Fuse in Combiner Box with two or more strings in parallel connection

Packaging Configuration

Modules per box	36 pieces
Modules per 40'container	936 pieces

Dimensions of PV Module(mm)



Note: 400mm hole distance is only applicable when specified by the customer

Maximum Ratings

Operational Temperature	-40~±85 °C
Front/Rear Side Load	5400/2400pa
Max Series Fuse Rating	30A
Max System Voltage	1500V (IEC)
Fire Rating	Class A

Warranty

Product Workmanship Warranty	30 years
Output Power Warranty	30 years

