MADE IN VIETNAM, manufacture by VIETNAM SUNERGY JOINT STOCK COMPANY

VSUN
Innovative & Smart

12 YEAR
QUALITY ASSURANCE

30 YEAR
POWER OUTPUT GUARANTEE

VSUN470N-120MH

VSUN470N-120MH
VSUN465N-120MH
VSUN460N-120MH
VSUN455N-120MH

470W
Highest power output

21.72%
Module efficiency

1.0%
First-year degradation warranty

0.4%
Annual degradation over 30 years

KEY FEATURES

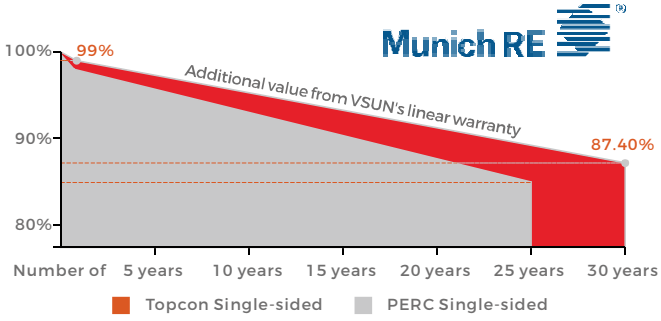
- TOPcon technology
- Higher output power
- MBB technology with Circular Ribbon
- Positive tolerance offer
- Lower risk of hot spot
- Better shading tolerance
- Better temperature coefficient
- Excellent PID Resistance
- Lower LCOE
- UL 61730 & CSA 61730
  IEC 61215 & IEC 61730

ABOUT VSUN

Invested by Fuji Solar, VSUN SOLAR is a solar solution provider with headquartered in Tokyo, Japan that offers reliability, high efficiency solar products and technology globally. VSUN is rated as BNEF Tier 1 PV module manufacturer, PVEL Lab "Best performer" and EcoVadis "Bronze Award".

PRODUCT CERTIFICATION

WARRANTY



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Electrical Characteristics at Standard Test Conditions(STC)

Module Type	VSUN470N-120MH	VSUN465N-120MH	VSUN460N-120MH	VSUN455N-120MH
Maximum Power - Pmax (W)	470	465	460	455
Open Circuit Voltage - Voc (V)	42.37	42.21	42.07	41.91
Short Circuit Current - Isc (A)	14.15	14.08	13.99	13.9
Maximum Power Voltage - Vmpp (V)	35.07	34.92	34.76	34.6
Maximum Power Current - Impp (A)	13.41	13.32	13.24	13.16
Module Efficiency	21.72%	21.49%	21.26%	21.03%

Standard Test Conditions (STC): irradiance 1,000 W/m²; AM 1,5; module temperature 25°C. Pmax Sorting : 0~5W. Measuring Tolerance: ±3%.
Remark: Electrical data do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.

Electrical Characteristics at Normal Operating Cell Temperature(NOCT)

Module Type	VSUN470N-120MH	VSUN465N-120MH	VSUN460N-120MH	VSUN455N-120MH
Maximum Power - Pmax (W)	354.5	350.6	347	343.3
Open Circuit Voltage - Voc (V)	39.9	39.7	39.6	39.5
Short Circuit Current - Isc (A)	11.43	11.37	11.3	11.22
Maximum Power Voltage - Vmpp (V)	32.9	32.7	32.6	32.5
Maximum Power Current - Impp (A)	10.77	10.71	10.64	10.57

Normal Operating Cell Temperature((NOCT) : irradiance 800W/m2; wind speed 1 m/s ; ambient temperature 20/℃. Measuring Tolercance: ±3%.

Material Characteristics

Dimensions	1908×1134×30mm (L×W×H) 75.12*44.65*1.18 inches (L×W×H) 23.9kg /
Weight	52.69lbs
Frame	Sliver anodized aluminum profile
Front Glass	AR-Coating toughened glass, 3.2 mm
Back sheet	Composite film
Cells	12×10 pcs mono solar cells series strings
Juntion Box	IP68, 3 diodes
Cable	Potrait: 500 mm (cable length can be customized), 1×4 mm2 or 12AWG, Connector: PV-ZH202B

System Design

Maximum System Voltage [V]	1500
Series Fuse Rating [A]	30
Fire Rating	Class C for IEC and TYPE 1 for US
Protection Class	Class II
Temperature Range	-40 °C to + 85 °C
Maximum Surface Load	+5400/-2400 Pa +113/-50 psf
Application class	Class A
Withstanding Hail	Maximum diameter of 25 mm with impact speed of 23 m/s

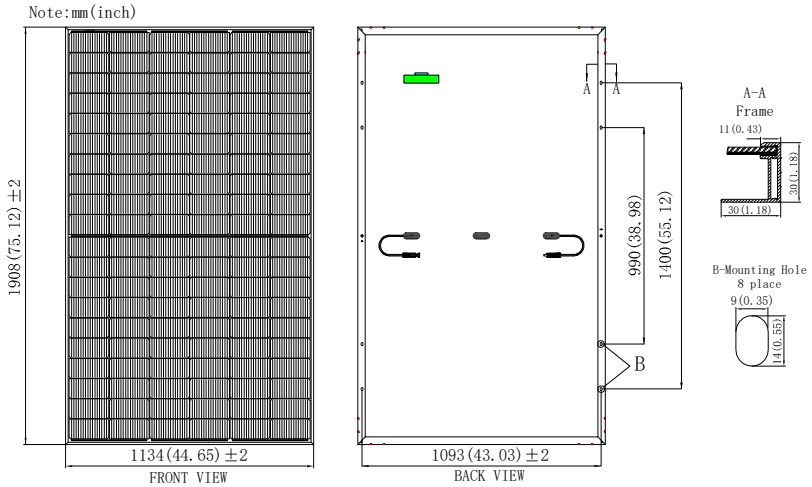
Packaging

Dimensions(L×W×H)	1940×1125×1253mm / 76.38*44.29*49.33inches
Quantity per pallet	36 pcs
Container 20'	180
Container 40'	432
Container 40'HC	864 or 792 for US

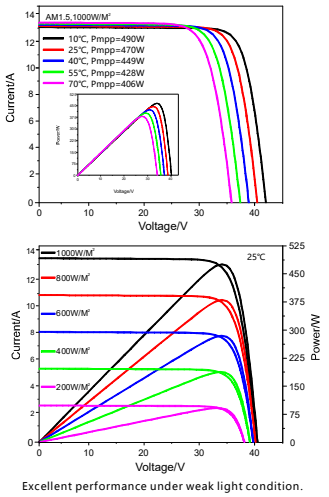
Temperature Characteristics

NOCT	45°C(±2°C)
Voltage Temperature Coefficient	-0.26%/°C
Current Temperature Coefficient	+0.046%/°C
Power Temperature Coefficient	-0.30%/°C

Dimensions



IV-Curves



Excellent performance under weak light condition.

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