



## VSUN470N-120MH-BB

VSUN470N-120MH-BB

VSUN465N-120MH-BB

VSUN460N-120MH-BB

VSUN455N-120MH-BB

**470W**

Highest power output

**21.72%**

Module efficiency

**1.0%**

First-year degradation warranty

**0.4%**

Annual degradation over 30 years

### KEY FEATURES

**TOPcon** 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

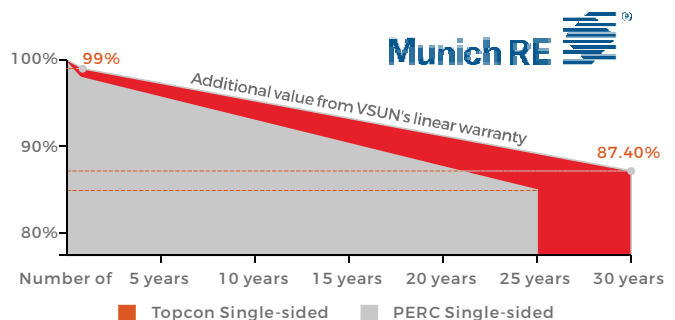
### ABOUT VSUN

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



## Electrical Characteristics at Standard Test Conditions(STC)

Module Type	VSUN470N-120MH-BB	VSUN465N-120MH-BB	VSUN460N-120MH-BB	VSUN455N-120MH-BB
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 - Imp (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/m<sup>2</sup>; 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-BB	VSUN470N-120MH-BB	VSUN470N-120MH-BB	VSUN470N-120MH-BB
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 - Imp (A)	10.77	10.71	10.64	10.57

Normal Operating Cell Temperature( NOCT) : irradiance 800W/m<sup>2</sup>; wind speed 1 m/s ; ambient temperature 20°C. Measuring Tolerance: ±3%.

## Material Characteristics

Dimensions	1908×1134×30mm (L×W×H) 75.12*44.65*1.18 inches (L×W×H)
Weight	23.9kg / 52.69lbs
Frame	Black 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
Junction Box	IP68, 3 diodes
Cable	Potrait: 500 mm (cable length can be customized), 1×4 mm <sup>2</sup> 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

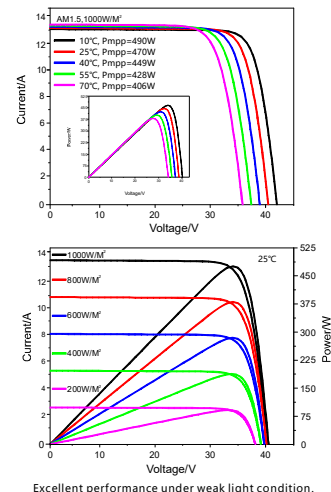
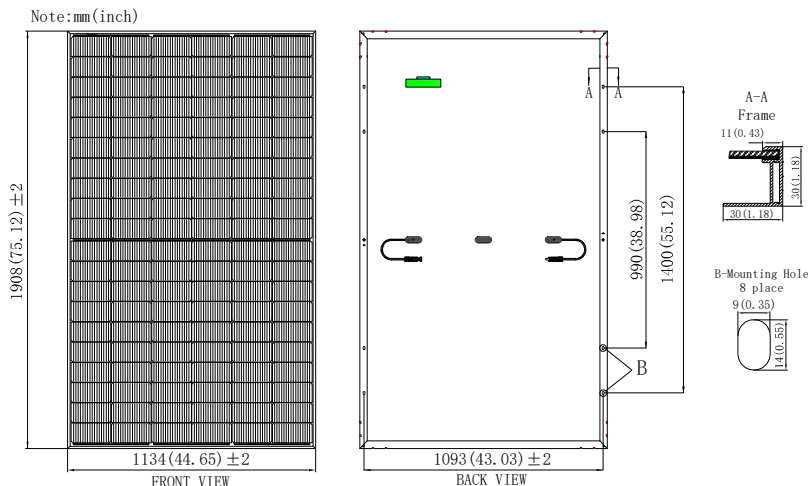
## Packaging

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



Excellent performance under weak light condition.