VSUN
Innovative & Smart

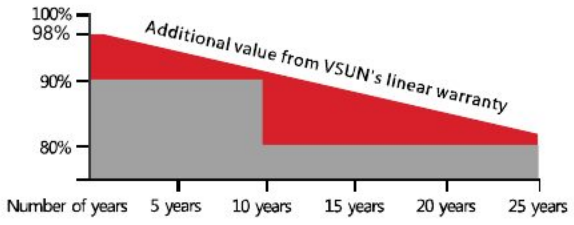
VSUN450-144MH

450W
Highest power output

20.37%
Module efficiency

12years
Material & Workmanship warranty

25years
Linear power output warranty



Munich RE

VSUN450-144MH VSUN445-144MH
VSUN440-144MH VSUN435-144MH



- 166mm mono-PERC Cell
- MBB technology
- Half-cell technology
- Positive tolerance offer
- Lower risk of micro-crack
- Better shading tolerance
- Certified for salt/ammonia corrosion resistance
- Load certificates: wind to 2400Pa and snow to 5400Pa
- Lower LCOE and BOS

VSUN, a BNEF Tier-1 PV module manufacturer invested by Fuji Solar, has been committed to providing greener, cleaner and more intelligent renewable energy solutions. VSUN is dedicated to bringing reliable, customized and high-efficient products into various markets and customers worldwide

Engineered in Japan
www.vsun-solar.com

Electrical Characteristics at Standard Test Conditions(STC)

Module Type	VSUN450-144MH	VSUN445-144MH	VSUN440-144MH	VSUN435-144MH
Maximum Power - Pmax (W)	450	445	440	435
Open Circuit Voltage - Voc (V)	50	49.8	49.6	49.4
Short Circuit Current - Isc (A)	11.5	11.42	11.34	11.26
Maximum Power Voltage - Vmpp (V)	41.4	41.2	41	40.8
Maximum Power Current - Impp (A)	10.87	10.81	10.74	10.67
Module Efficiency	20.37%	20.14%	19.92%	19.69%

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	VSUN450-144MH	VSUN445-144MH	VSUN440-144MH	VSUN435-144MH
Maximum Power - Pmax (W)	335.2	331.7	328	324.3
Open Circuit Voltage - Voc (V)	46.6	46.4	46.2	46
Short Circuit Current - Isc (A)	9.29	9.22	9.16	9.09
Maximum Power Voltage - Vmpp (V)	38.4	38.2	38.1	37.9
Maximum Power Current - Impp (A)	8.73	8.67	8.61	8.55

Normal Operating Cell Temperature((NOCT) : irradiance 800W/m^2; wind speed 1 m/s ; ambient temperature 20/℃. Measuring Tolercance: ±3%.

Temperature Characteristics

NOCT	45℃ (±2℃)
Voltage Temperature Coefficient	-0.27%/℃
Current Temperature Coefficient	+0.048%/℃
Power Temperature Coefficient	-0.35%/℃

Maximum Ratings

Maximum System Voltage [V]	1500
Series Fuse Rating [A]	20

Material Characteristics

Dimensions	2108×1048×35mm (L×W×H)
Weight	24.4kg
Frame	Silver anodized aluminum profile
Front Glass	White toughened safety glass, 3.2 mm
Cell Encapsulation	EVA (Ethylene-Vinyl-Acetate)
Back Sheet	Composite film
Cells	12×12 pieces monocrystalline solar cells series strings
Junction Box	IP68, 3 diodes
Cable&Connector	Potrait: 500 mm (cable length can be customized) , 1×4 mm2, compatible with MC4

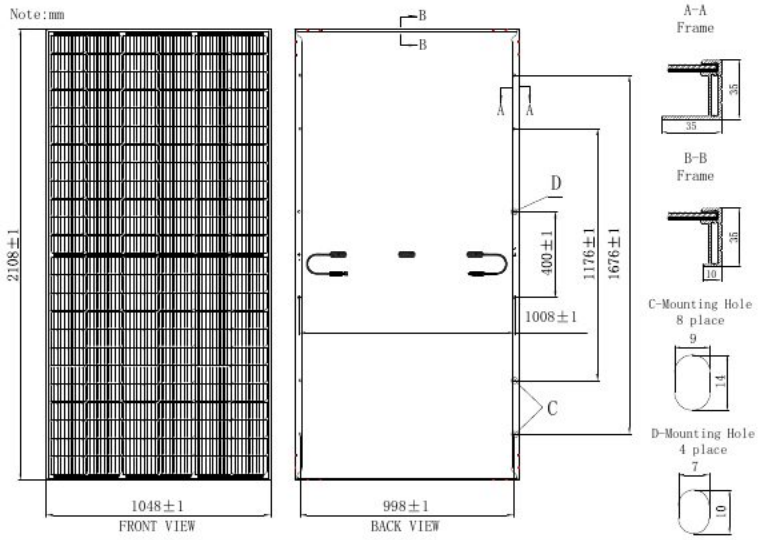
Packaging

Dimensions(L×W×H)	2140×1125×1181mm
Container20'	155
Container40'	341
Container40'HC	682

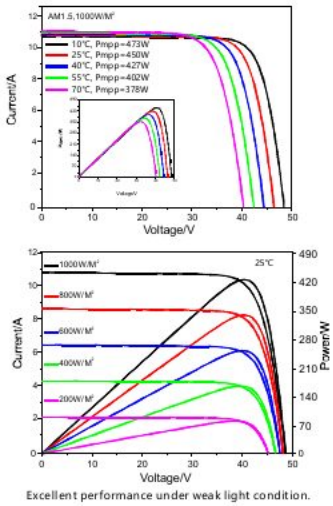
System Design

Temperature Range	-40 °C to + 85 °C
Withstanding Hail	Maximum diameter of 25 mm with impact speed of 23 m·s-1
Maximum Surface Load	5,400 Pa
Application class	Class A

Dimensions



IV-Curves



Excellent performance under weak light condition.