

Mission Solar MSE PERC 72 SX6W 415W



Brand: Mission Solar

Product Code: MSE PERC 72 SX6W 415W

Availability: In Stock

Weight: 37.04lb

Dimensions: 69.09in x 40.87in x 1.38in

Price: \$384.25

Ex Tax: \$384.25

Short Description

In-depth review of the high power Mission Solar 415W solar panel. Get the details on specs, warranties, pricing and value before installing these USA-made panels.

Description

The MSE415SX6Z PERC 72 mono-crystalline solar panel is a 72 cell solar panel with the highest power output in its class. It's high efficiency and certified reliability make it ideal for utility grid-tied installations including ground-mounted and commercial rooftop solar panel systems.



- **Power Rating:** 415W
- **Cell Type:** Monocrystalline
- **Panel Dimensions:** 2086.0 mm L 1054.0 mm W 40.0 mm D
- **Snow Load:** 5400 Pa
- **Wind Load:** 3600 Pa
- **Solar Panel Aesthetics:** Cell, Black Frame, White Backsheet
- **Linear Warranty Term:** 25 years
- **Product Warranty Term:** 25 years
- **Made in San Antonio Texas, USA**
- **Approximate cost per watt: \$2.50**

Performance

Power Rating 415W

The larger Mission MSE PERC 72 SX6W 415W module was once thought of as a hefty

panel primarily used in larger commercial and utility applications. However, this 415W powerhouse is now being put into action on residential rooftops across Texas.

Efficiency 18.9%

Mission Solar MSE PERC 72 SX6W 415W module efficiency rating of 18.9% places it on the higher end of average solar panel efficiency. Their achievement is largely due to the 6 bus bars on their mono-PERC cells, which allow more electrons to flow through each solar cell

Power Tolerance 0/+3%

Power tolerance refers to the amount of electricity it will produce either above or below its rated power capacity at Standard Test Conditions (STC). The smaller the power tolerance deviation or range, the more accurate the rated power capacity is.

Mission Solar modules have a power tolerance of -0/+3%.

This means Mission Solar MSE PERC 72 SX6W 415W will, at the very minimum, operate at their rated capacity, However, these panels have exceeded, by as much as 3%, of its rated capacity. For example, a Mission Solar panel rated at 415 W will be able to operate anywhere from 415 W to 427 W (or 3% higher than 415) under STC

Temperature Coefficient P_{Max}: -0.36

Solar panels perform best at 77°F (25°C). Obviously, Texas temperatures will far exceed 77°F for long portions of the year. A solar panels temperature coefficient is a measurement indicating how well a specific model of solar panel will perform outside of ideal operating conditions.

Knowing a panel's temperature coefficient and the temperature of the panel will allow you to predict your panels performance during the dog days of summer.

Temperature coefficients are calculated in Celsius.

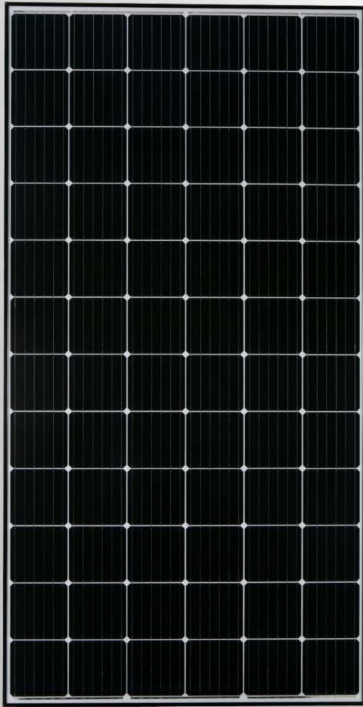
With each degree above 25°C (77°F) a given solar panels electric output will be diminished by its temperature coefficient.

Using the above methodology, The MSE PERC 72 panels has a temperature coefficient of -0.36%/°C. Hence, when this panels temperature increases by one degree, from 25°C to 26°C (77° F to 79° F), expect a 0.36% reduction in potential electric output.

When it's July in Texas and temperatures have climbed to 95°F (35°C) expect electric output to decrease by 3.6%. When the hottest hours of summer days drive the mercury into the triple digits – say, 113°F, the Mission Solar MSE PERC 66 and MSE PERC 72 will decrease by approximately 7.2%.

Mission MSE PERC 72 SX6W 415W

Product Name and Model Number	MSE PERC 72 SX6W Black 415W
Manufacturer Name and Rating	Mission Solar
Rated Power Output	415 watt
Efficiency Percentage	18.9%
Power Tolerance	+3.0%
Temperature Coefficient	-0.36%
Resiliency Specs	Snow load 5400Pa, Wind load 3600Pa
Output Warranty Term Length	25 year
Output Warranty Decline Rate	-0.58%
Materials Warranty Term Length	12 years, 25 years if registered online.
Cell Color(s)	Black
Frame	Black Anodized Aluminum Alloy
Backsheet Color(s)	Black
Cell Type (e.g. monocrystalline)	Monocrystalline P-type
Panel Dimensions	2086 X 1054 X 40mm
Weight	51.6 lbs/ 23.4kg
Number of Cells	72 cells
Connector Type	Renhe 05-8
Manufacturer Location	USA San Antonio Texas
Certifications Received (UL, IEC, ISO)	IEC, UL, CEC, TUV
Average Cost per Watt	.92
Marketplace Average Pricing	.90 - 1.50
Great/Above Market Price Indicators	Solid Value



CLASS LEADING POWER OUTPUT

420 W

POSITIVE POWER TOLERANCE

-0 - +3 %

The True American Brand

Mission Solar Energy is headquartered in San Antonio, Texas, where we manufacture our modules. We produce American, high quality solar modules ensuring the highest in class power output and best in-class reliability. Our product line is tailored for residential, commercial and utility applications. Every Mission Solar Energy solar module is certified and surpasses industry standard regulations, proving excellent performance over the long-term. Demand the best, demand Mission Solar Energy.



CERTIFIED RELIABILITY

- › Tested to UL 61730 & IEC standards
- › PID resistant
- › Resistance to salt mist corrosion



ADVANCED TECHNOLOGY

- › PERC and 6 busbar drive 19.1% module efficiency
- › Ideal for all applications



EXTREME WEATHER RESILIENCE

- › 5400 Pa front and 3600 Pa back load
- › Tested to UL 61730
- › 40mm frame



BAA COMPLIANT FOR GOVERNMENT PROJECTS

- › Buy American Act
- › American Recovery & Reinvestment Act



FRAME-TO-FRAME WARRANTY

Degradation guaranteed not to exceed 2% in year one and 0.58% annually from years two to 30 with 84.08% guaranteed in year 25.

CERTIFICATIONS

UL 61730
IEC 61215 - IEC 61730
IEC 61701



CEC



Please contact Mission Solar Energy if you have questions or concerns about certification of our products in your area.

*Standard 12-year product warranty extendable to 25 years with registration:
www.missionsolar.com/warranty/

ELECTRICAL SPECIFICATION

Product Type	MSE xxx SX6W (xxx =P _{max})						
Power Output	P _{max}	W _p	405	410	415	420	425
Module Efficiency		%	18.4	18.6	18.9	19.1	19.3
Tolerance		%	0/+3	0/+3	0/+3	0/+3	0/+3
Short Circuit Current	I _{sc}	A	10.89	10.93	10.99	11.05	11.09
Open Circuit Voltage	V _{oc}	V	48.56	48.71	48.92	49.14	49.28
Rated Current	I _{mp}	A	10.23	10.32	10.39	10.46	10.55
Rated Voltage	V _{mp}	V	39.59	39.73	39.93	40.14	40.27
Fuse Rating		A	20	20	20	20	20
System Voltage		V	1500	1500	1500	1500	1500

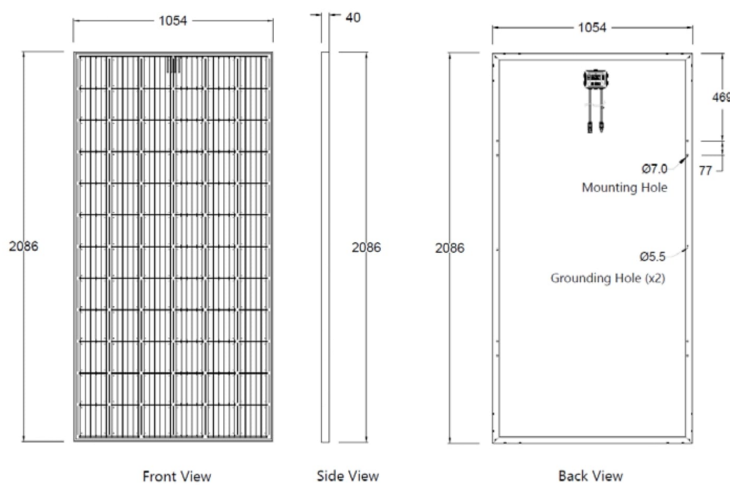
TEMPERATURE COEFFICIENTS

Normal Operating Cell Temperature (NOCT)	44.69°C (±3.7%)
Temperature Coefficient of P _{max}	-0.359%/°C
Temperature Coefficient of V _{oc}	-0.261%/°C
Temperature Coefficient of I _{sc}	0.044%/°C

OPERATING CONDITIONS

Maximum System Voltage	1,500Vdc
Operating Temperature Range	-40°C (-40°F) to +85°C (185°F)
Maximum Series Fuse Rating	20A
Fire Safety Classification	Type 1
Front & Back Load (UL Standard)	5400 Pa front and 3600 Pa back load Tested to UL 61730
Hail Safety Impact Velocity	25mm at 23 m/s

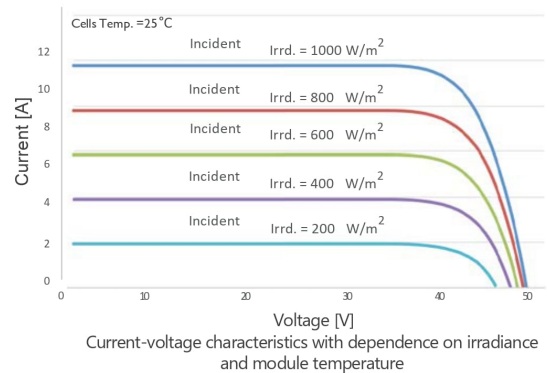
BASIC DIMENSIONS (UNITS: mm)



MECHANICAL DATA

Solar Cells	P-type mono-crystalline silicon
Cell Orientation	72 cells (6x12)
Module	2086mm x 1054mm x 40mm
Weight	23.4 kg (51.6 lbs.)
Front Glass	3.2mm, tempered, low-iron, anti-reflective
Frame	Anodized
Encapsulant	Ethylene vinyl acetate (EVA)
Junction Box	Protection class IP67 with 3 bypass-diodes
Cables	1.2m, Wire 4mm ² 12AWG
Connector	Renhe 05-8

MSE415SX6W: 415WP, 72 CELL SOLAR MODULE CURRENT - VOLTAGE CURVE



CERTIFICATIONS & TESTS

IEC	61215, 61730, 61701
UL	61730



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SHIPPING INFORMATION

Container FT	Pallets		Panels	420 W Bin
53'	Most states	28	728	305.76 kW
Double Stack	California	25	650	273.00 kW
Pallet [26 Panels]				
Weight	Height	Width	Length	
1450 lbs.	47.5 in	46 in	83.75 in	
(657 kg)	(120.65 cm)	(116.84 cm)	(212.72 cm)	

Mission Solar Energy reserves the right to make specification changes without notice

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[Learn More](#)

Warranty Specifications

Warranty Specifications

Mission Solar panel offers a 25-year, linear production guaranteeing an end of term production of 84.08% and a 12-year product warranty on every panel they manufacture.

This warranty ensures all solar panels are defect free and with normal use and proper installation will be covered for 12 years from the date of purchase. After installation, Mission encourages homeowners to visit their website and register their panels online. This online registration extends your product warranty from 12 to 25 years.

Specification

Solar Panel Configuration	
Cell Type	Monocrystalline
Panel Aesthetics	Cell, Black Frame, White Backsheet
Panel Dimensions	2086.0 mm L 1054.0 mm W 40.0 mm D
Power Rating	415W
Snow load	5400 Pa
Wind Load	3600 Pa
Solar Panel Warranty	
Linear Production	25 Years
Warranty Term	
Product Warranty Term	25 Years
PV Product Performance	
Efficiency	18.9%
Power Tolerance	0/+3%
Temperature Coefficient	PMax: -0.36
Others	
Average Cost / Watt	\$2.50
Where it's Made	Made in Vietnam, Malaysia