

CLASS LEADING POWER OUTPUT

415 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 > 18.9% 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	MSExxxSX6Z (xxx=P _{max})				
Power Output	P _{max}	W _p	415	420	425
Module Efficiency		%	18.9	19.1	19.3
Tolerance		%	0/+3	0/+3	0/+3
Short Circuit Current	I _{sc}	A	10.91	10.97	11.01
Open Circuit Voltage	V _{oc}	V	48.91	49.13	49.27
Rated Current	I _{mp}	A	10.35	10.42	10.51
Rated Voltage	V _{mp}	V	40.09	40.29	40.43
Fuse Rating		A	20	20	20
System Voltage		V	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

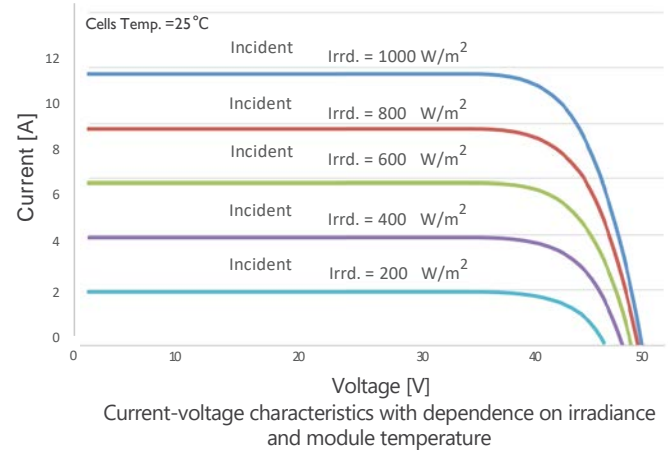
OPERATING CONDITIONS

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

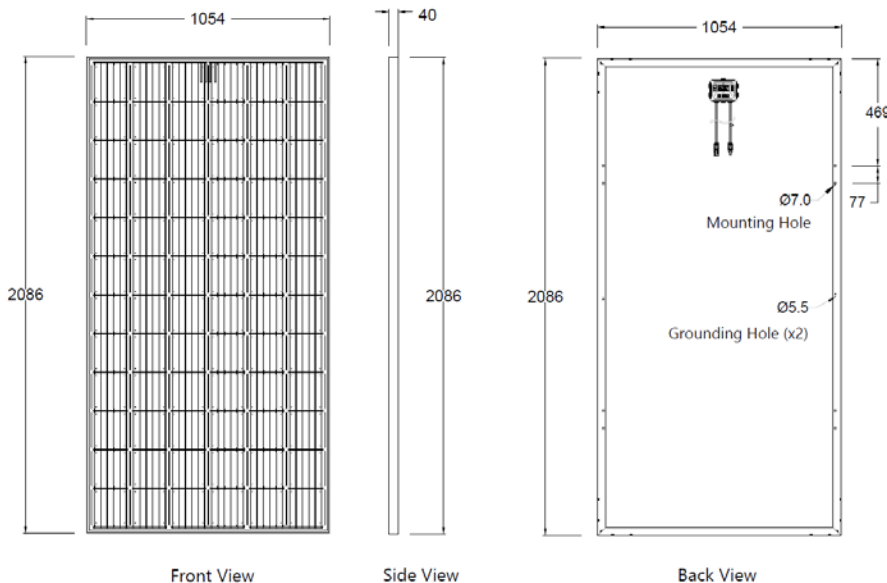
MECHANICAL DATA

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

MSE415SX6Z: 415WP, 72 CELL SOLAR MODULE CURRENT - VOLTAGE CURVE



BASIC DIMENSIONS (UNITS: mm)



CERTIFICATIONS & TESTS

IEC	61215, 61730, 61701
UL	61730



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SHIPPING INFORMATION

Container FT	Ship to	Pallets	Panels	415 W Bin
53'	Most states	28	728	302.12 kW
Double stack	California	25	650	269.75 kW
Pallet [26 Panels]				
Weight	Height	Width	Length	
1450 lbs. (657 kg)	47.5 in (120.65 cm)	46 in (116.84 cm)	83.75 in (212.72 cm)	