

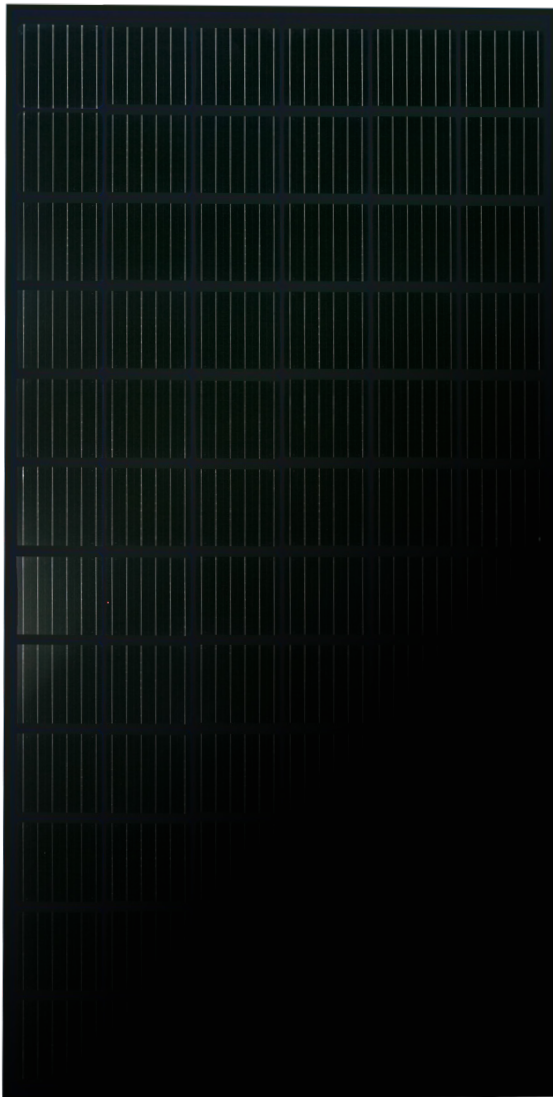


415W

Class leading power output

Positive Power Tolerance

-0 to +3%



True American Quality 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

- 6 Busbar
- Passivated Emitter Rear Contact
- Ideal for all applications



Extreme Weather Resilience

- Up to 5,400 Pa front load & 3,600 Pa back load
- Tested load to UL 61730
- 40 mm 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.

For more information visit www.missionsolar.com/warranty

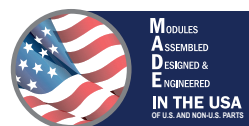
CERTIFICATIONS

CEC



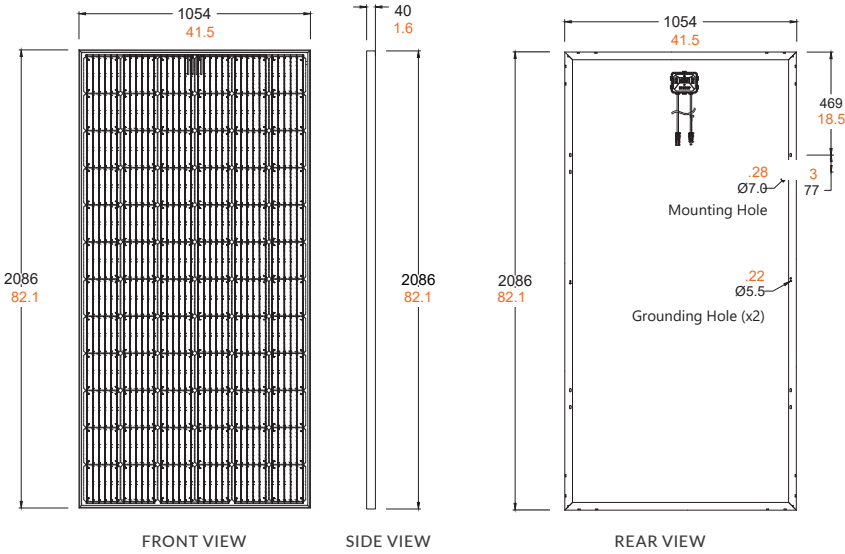
If you have questions or concerns about certification of our products in your area, please contact Mission Solar Energy

UL 61730 / IEC 61215 / IEC 61730 / IEC 61701



BASIC DIMENSIONS

[UNITS: MM/IN]



ELECTRICAL SPECIFICATION

PRODUCT TYPE	MSE _{xxx} SX6Z (xxx = P _{max})				
Power Output	P _{max}	W _p	410	415	420
Module Efficiency	%		18.6	18.9	19.1
Tolerance	%		0/+3	0/+3	0/+3
Short Circuit Current	I _{sc}	V	10.85	10.91	10.97
Open Circuit Voltage	V _{oc}	A	48.70	48.91	49.13
Rated Current	I _{mp}	V	10.28	10.35	10.42
Rated Voltage	V _{mp}	V	39.88	40.09	40.29
Fuse Rating	A		20	20	20
System Voltage	V		1,500	1,500	1,500

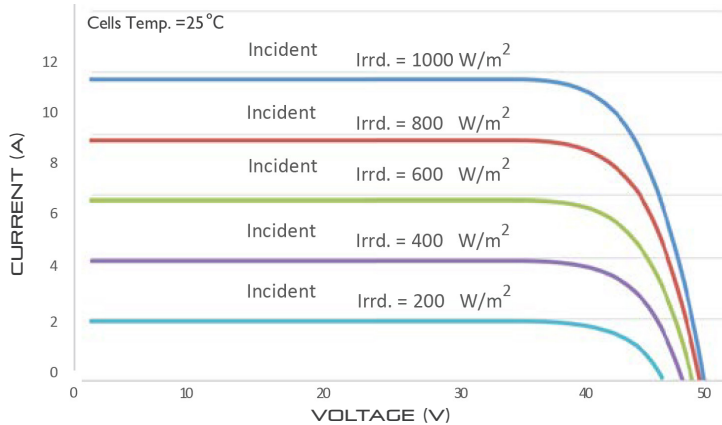
TEMPERATURE COEFFICIENTS

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

CURRENT-VOLTAGE CURVE

MSE415SX6Z: 415WP, 72 CELL SOLAR MODULE

Current-voltage characteristics with dependence on irradiance and module temperature



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 Dimension	2,086mm x 1,054mm 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
Cable	1.2m, Wire 4mm ² (12AWG)
Connector	Staubli PV-KBT4/6II-UR and PV-KST4/6II-UR, MC4, Renhe 05-8

CERTIFICATIONS AND TESTS

IEC	61215, 61730, 61701
UL	61730



CEC



Mission Solar Energy

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SHIPPING INFORMATION

Container Feet	Ship To	Pallet	Panels	415 W Bin
53'	Most States	28	728	302.12 kW
Double Stack	CA	25	650	269.75 kW

PALLET [26 PANELS]

Weight	Height	Width	Length
1,450 lbs. (657 kg)	47.5 in (120.65 cm)	46 in (116.84 cm)	83.75 in (212.72 cm)