

# BSDM-450

## SOLAR PANEL

### DESCRIPTION

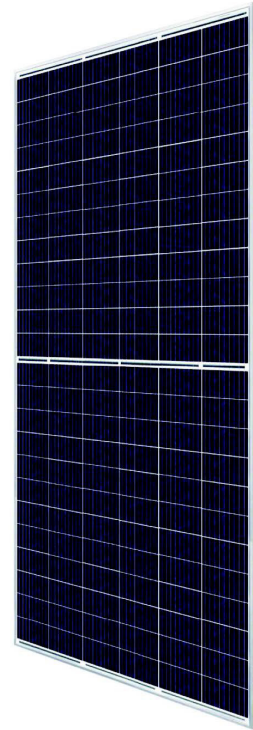
Big Shine Worldwide is proud to be the trusted partner for your commercial, residential, or utility-scale Solar PV electric system. We are excited to offer our newest high performance PV module, the BSW BSDM-450. With an outstanding efficiency of 20.37%, our BSDM-450 pumps out 450 Watts of power from an industry-standard size panel and we guarantee a positive power tolerance of + 5 Watts. Integrating many advanced features, our BSDM-450 monocrystalline modules ('solar panels') use 'half-cut' silicon cells and 'PERC' coating for greater durability and enhanced performance. Our modules use light-capturing PV cells of single crystal silicon sliced from a solid semiconductor ingot. By laser-cutting the individual silicon cells to half of the ingot width, less power is lost due to internal cell resistance, the module can be made less sensitive to 'shading', becomes more efficient in low-light conditions, and stresses are reduced, making the module even more durable. BSW Modules are manufactured to the highest global quality standards, including ISO9001 and Environmental Management procedures. Every BSW module is twice 100% inspected during production, and we add a further step to improve the efficiency beyond just optimizing the individual modules. Using advanced semiconductor inspections, every module is tested and sorted into precisely-defined limits of electrical current output, a process known as 'binning'. This enables an optimum grouping of modules into series-connected 'strings', the standard practice for making solar PV arrays. We back every BSW Module with a 12-year product warranty and a 25-year linear power warranty.

### APPLICATIONS

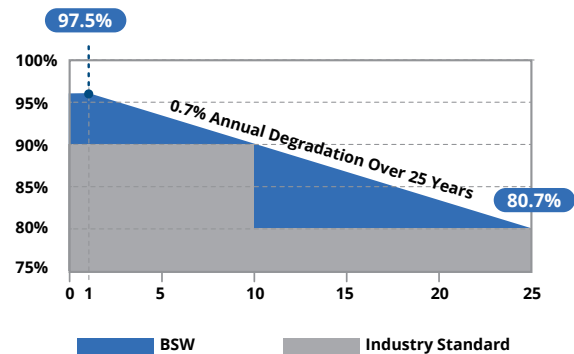
Commercial, Residential, Utility

### SPECIAL FEATURES

- High-efficiency half-cut solar module using cells with unique PERC and Multi-Bus Bars (MBB) technology
- Provides stable power even in low sunshine and climate change
- Positive tolerance 0/+5W to guarantee power output reliability.
- Manufactured based on Quality management systems: ISO9001 and Environmental management systems
- Modules binned by current to improve system performance.
- Excellent weak light performance: Relative change of module efficiency at 200W/m<sup>2</sup> is less than 4%.
- Electric Current Classification: System output maximized by reducing mismatch losses up to 2% with modules sorted and package by amperage.
- Strong mechanical load resistance withstands high wind loads 2400Pa and snow loads 5400Pa. Salt and ammonia resistant.
- 100% EL double-inspection ensures modules are defect free.
- 25-year linear power warranty, 12-year warranty on materials and workmanship
- Monocrystalline modules professionally designed for residential commercial and utility applications, rooftop or ground mount



### WARRANTY



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## ELECTRICAL SPECIFICATIONS

STC (Irradiance 1,000W/m2, module temperature 25°C, AM=1.5)	BSDM-450
Rated Power (Pmax)	450W
Voltage at Pmax (Vmp)	41.4V
Current at Pmax (Imp)	10.87A
Short-Circuit Current (Isc)	11.5A
Open-Circuit Voltage (Voc)	50V
Module Efficiency	20.37%
Operating Module Temperature	-40° C to + 85° C

NOCT (Irradiance 800W/m2, ambient temperature 20°C, AM=1.5, Wind 1m/s)	BSDM-450
Maximum Power (Pmax) at NOCT	335.2W
Maximum Power Voltage (Vmpp)	38.4V
Maximum Power Current (Imp)	8.73A
Short-Circuit Current (Isc)	9.29A
Open-Circuit Voltage (Voc)	46.6V

## MECHANICAL SPECIFICATIONS

<b>Dimensions</b>	83.0in x 41.26in x 1.38in (2108mm x 1048mm x 35mm)
<b>Front Load</b>	5,400Pa
<b>Rear Load</b>	2,400Pa
<b>Weight</b>	53.8lbs (24.4kg)
<b>Glass</b>	High-Transmittance low iron tempered glass- 3.2mm
<b>Frame</b>	Anodized aluminum alloy frame
<b>J-Box</b>	IP68 with 3 bypass diodes
<b>Output Cables</b>	PV Wire (PV1-F), 12AWG (500mm)
<b>Connectors</b>	MC4 Compatible

## TEMPERATURE CHARACTERISTICS

Temperature coefficient of Isc	0.048% / °C
Temperature coefficient of Voc	-0.27% / °C
Temperature coefficient of power	-0.35% / °C

## WORKING CONDITIONS

<b>Maximum System Voltage</b>	1000/1500VDC(IEC/UL)	<b>Maximum Static Load, Front (e.g. snow &amp; wind)</b>	5400Pa
<b>Operating Temperature</b>	-40°C~+85°C	<b>Maximum Static Load, Back (e.g. wind)</b>	2400Pa
<b>Maximum Series Fuse</b>	20A	<b>Withstanding Hail Application Class</b>	Max. dia. of 25mm @23m/s A
<b>NOCT</b>	45±2 °C	<b>Fire performance Class</b>	Class C/ Type 1

## DIMENSIONS

