

High-efficiency photovoltaic module using silicon nitride multicrystalline silicon cells.

### Performance

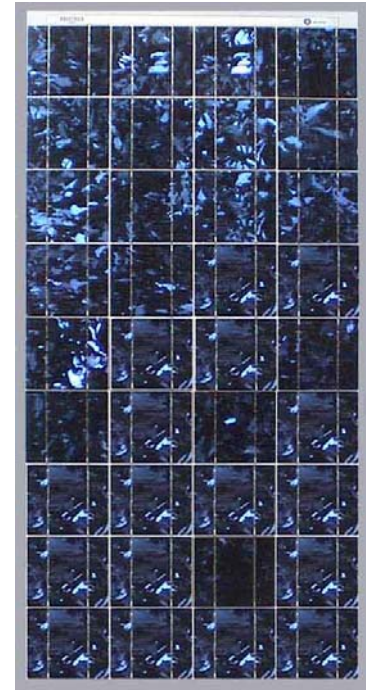
Rated power ( $P_{max}$ )	80W
Power tolerance	$\pm 5\%$
Nominal voltage	12V
Limited Warranty <sup>1</sup>	25 years

### Configuration

<b>S</b> BP 380S	Clear universal frame with Wirehold™ J-Box and polarized Multicontact (MC) connectors
<b>L</b> BP 380L	Unframed laminate version of BP 385S
<b>J</b> BP 380J	Clear universal frame and standard J-Box

### Electrical Characteristics<sup>2</sup>

	BP 380	BP 375
Maximum power ( $P_{max}$ ) <sup>3</sup>	80W	75W
Voltage at Pmax ( $V_{mp}$ )	17.6V	17.3V
Current at Pmax ( $I_{mp}$ )	4.5A	4.3A
Warranted minimum $P_{max}$	76W	71.3W
Short-circuit current ( $I_{sc}$ )	4.8A	4.7A
Open-circuit voltage ( $V_{oc}$ )	22.1V	21.8V
Temperature coefficient of $I_{sc}$	(0.065 $\pm$ 0.015)%/ °C	
Temperature coefficient of $V_{oc}$	-(80 $\pm$ 10)mV/°C	
Temperature coefficient of power	-(0.5 $\pm$ 0.05)%/ °C	
NOCT (Air 20°C; Sun 0.8kW/m <sup>2</sup> ; wind 1m/s)	47 $\pm$ 2°C	
Maximum series fuse rating	15A (S, L); 20A (J)	
Maximum system voltage	600V (U.S. NEC) 1000V (TÜV Rheinland & IEC 61215)	



### Mechanical Characteristics

Dimensions	<b>S, J</b>	Length: 1209mm (47.6")	Width: 537mm (21.1")	Depth: 50mm (1.97")
	<b>L</b>	Length: 1197mm (47.1")	Width: 530mm (20.9")	Depth: 19mm (0.75")

Weight	<b>S, J</b>	7.7 kg (17.0 pounds)
	<b>L</b>	6.1 kg (13.4 pounds)

Solar Cells	<b>S, L, J</b>	36 cells (125mm x 125mm) in a 4x9 matrix connected in series
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Output Cables	<b>S, L</b>	RHW AWG# 12 (3.3mm <sup>2</sup> ) cable with polarized weatherproof DC rated Multicontact connectors; asymmetrical lengths - 900mm (-) and 800mm (+)
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Junction Box	<b>J</b>	J-Version junction box with 6-terminal connection block; IP 65, accepts PG 13.5, M20, ½ inch conduit, or cable fittings accepting 6-12mm diameter cable. Terminals accept 2.5 to 10mm <sup>2</sup> (8 to 14 AWG) wire.
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Diodes	<b>S, L, J</b>	<b>IntegraBus™</b> technology includes Schottky by-pass diodes Integrated into the printed circuit bus
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Construction	<b>S, L, J</b>	Front: High-transmission 3mm (1/8 <sup>th</sup> inch) tempered glass; Back: White back sheet; Encapsulant: EVA
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Frame	<b>S, J</b>	Clear anodized aluminum alloy type 6063T6 Universal frame; Color: silver
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1. Module Warranty: 25-year limited warranty of 80% power output; 12-year limited warranty of 90% power output; 5-year limited warranty of materials and workmanship. See your local representative for full terms of these warranties.
2. This data represents the performance of typical BP modules, and are based on measurements made in accordance with ASTM E1036 corrected to SRC (STC.)
3. During the stabilization process that occurs during the first few months of deployment, module power may decrease by approx. 1% from typical  $P_{max}$ .

## Quality and Safety



Manufactured in ISO 9001-certified factories; conforms to European Community Directives 89/33/EEC, 73/23/EEC, 93/68/EEC; certified to IEC 61215

ESTI

Module power measurements calibrated to World Radiometric Reference through ESTI (European Solar Test Installation at Ispra, Italy)



Framed modules certified by TÜV Rheinland as Safety Class II (IEC 60364) equipment for use in systems up to 1000 VDC

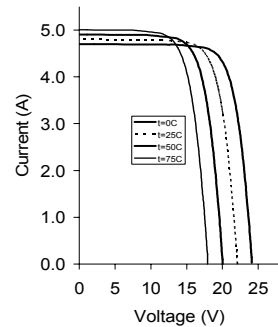


Framed modules listed by Underwriter's Laboratories for electrical and fire safety (Class C fire rating)



Approved by Factory Mutual Research in NEC Class 1, Division 2, Groups C & D hazardous locations (J version only)

BP 380 I-V Curves

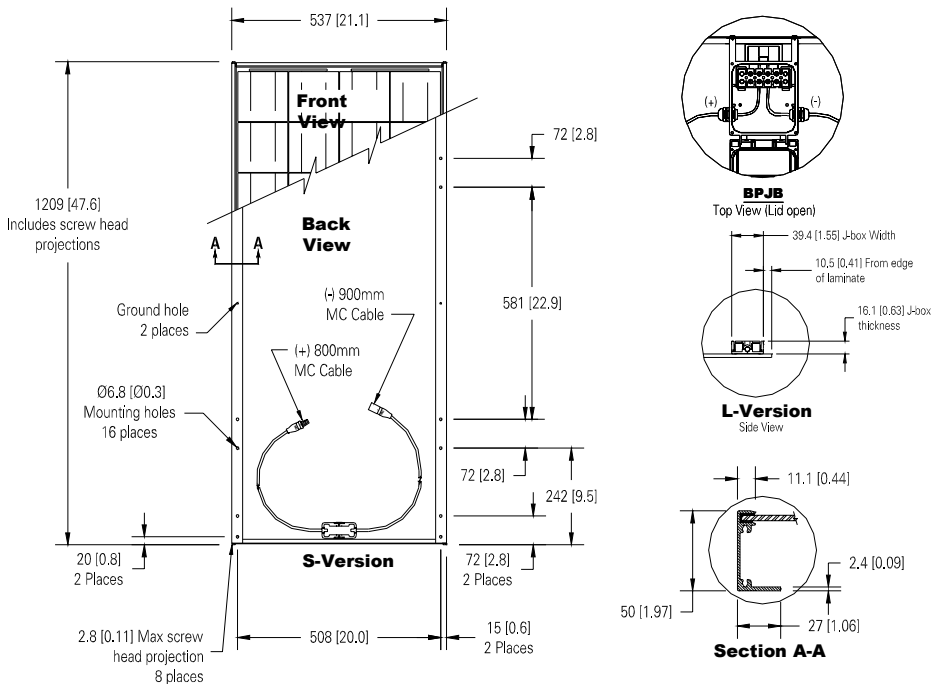


## Qualification Test Parameters

Temperature cycling range	-40°C to +85°C (-40°F to 185°F)
Humidity freeze, damp heat	85% RH
Static load front and back (e.g. wind)	2400 pa (50psf)
Front loading (e.g. snow)	5400 pa (113psf)
Hailstone impact	25mm (1 inch) at 23 m/s (52mph)

## Module Diagram

Dimensions in brackets are in inches. Un-bracketed dimensions are in millimeters. Overall tolerances  $\pm 3\text{mm}$  (1/8")



Included with each module: self-tapping grounding screw, instruction sheet, and warranty document.

**Note:** This publication summarizes product warranty and specifications, which are subject to change without notice. Additional information may be found on our web site: [www.bpsolar.com](http://www.bpsolar.com)