

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

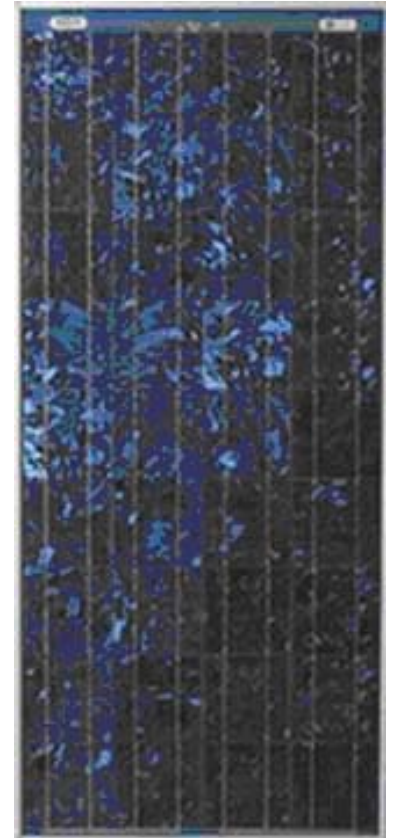
Rated power (P_{max})	80W
Power tolerance	$\pm 5\%$
Nominal voltage	12V
Limited Warranty ₁	25 years

Configuration

S BP 380S	Clear universal frame with output cables and polarized Multicontact (MC) connectors
L BP 380L	Unframed laminate version of BP 380S
U BP 380U	Clear universal frame with standard junction box

Electrical Characteristics²

	BP 380
Maximum power (P_{max}) ³	80W
Voltage at Pmax (V_{mp})	17.6V
Current at Pmax (I_{mp})	4.55A
Warranted minimum P_{max}	76W
Short-circuit current (I_{sc})	4.8A
Open-circuit voltage (V_{oc})	22.1V
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 ² ; wind 1m/s)	47 \pm 2°C
Maximum series fuse rating	15A (20A for U version)
Maximum system voltage	600V (U.S. NEC) 1000V (TÜV Rheinland & IEC 61215)


Mechanical Characteristics

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

Weight	S,U	7.7 kg (17.0 pounds)
	L	6.1 kg (13.4 pounds)

Solar Cells	S,L,U	36 cells (125mm x 125mm) in a 4x9 matrix connected in series
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Output Cables	S,L	RHW AWG# 12 (4mm ²) cable with polarized weatherproof DC rated Multicontact connectors; asymmetrical lengths - 900mm (-) and 800mm (+)
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Junction Box	U	Standard junction box with 6-terminal connection block; IP 54, accepts PG 13.5, M20, ½ inch conduit, or cable fittings accepting 6-12mm diameter cable. Terminals accept 2.5 to 10mm ² (8 to 14 AWG) wire.
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Diodes	S,L,U	Two 9A, 45V Schottky by-pass diodes included
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Construction	S,L,U	Front: High-transmission 3mm (1/8 th inch) tempered glass; Back: Tedlar; Encapsulant: EVA
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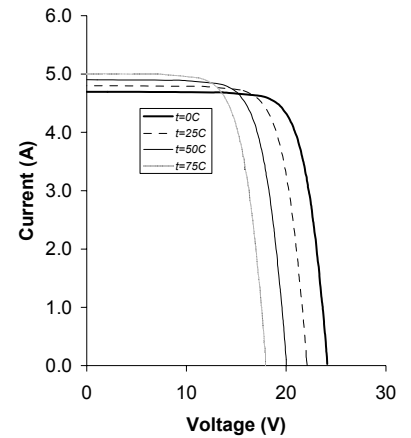
Frame	S,U	Clear anodized aluminum alloy type 6063T6 Universal frame; Color: silver
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1. Warranty: Power output for 25 years. Freedom from defects in materials and workmanship for 5 years. See our website or your local representative for full terms of these warranties.
2. These data represent the performance of typical BP 380 products, 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 up to 3% from typical P_{max} .

Quality and Safety

ESTI	Module power measurements calibrated to World Radiometric Reference through ESTI (European Solar Test Installation at Ispra, Italy)
CE	Manufactured in ISO 9001-certified factories; conforms to European Community Directives 89/33/EEC, 73/23/EEC, 93/68/EEC; certified to IEC 61215
TUV	Framed modules certified by TÜV Rheinland as Safety Class II (IEC 60364) equipment for use in systems up to 1000 VDC
UL	Listed by Underwriter's Laboratories for electrical and fire safety (Class C fire rating)
FM	Approved by Factory Mutual Research in NEC Class 1, Division 2, Groups C & D hazardous locations (U)

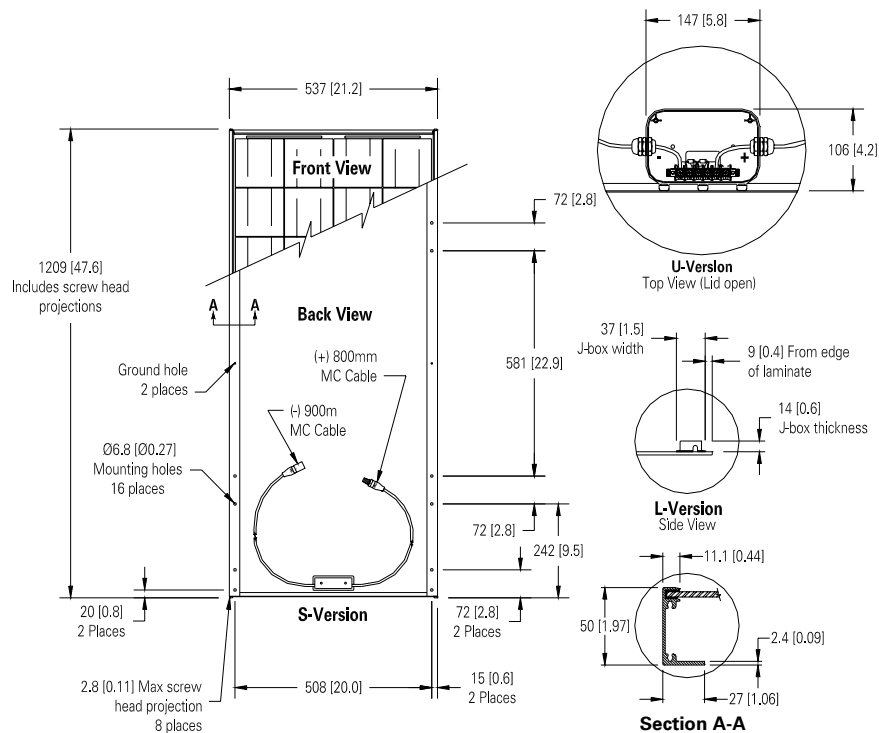
BP 380 I-V Curves



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)	50psf (2400 pascals)
Front loading (e.g. snow)	113psf (5400 pascals)
Hailstone impact	25mm (1 inch) at 23 m/s (52mph)

Dimensions in brackets are in inches. Unbracketed 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.