

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

Performance

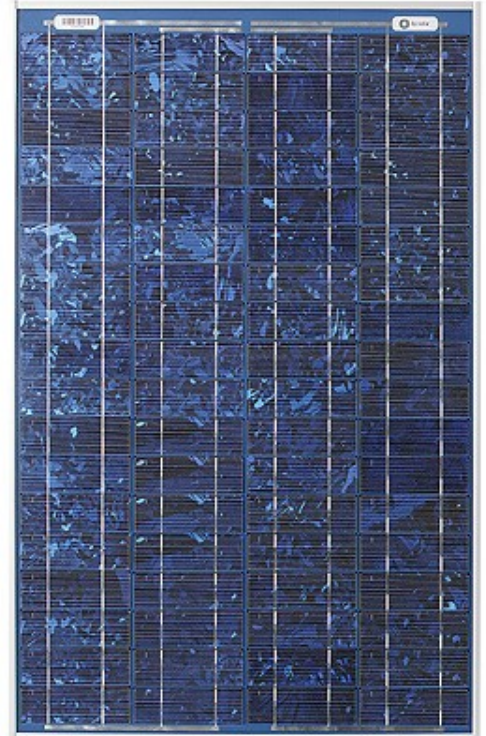
Rated power (P_{max})	50W
Nominal voltage	12V
Limited Warranty ₁	25 years

Configuration

BP 350U	Clear universal frame and standard J-box
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Electrical Characteristics²

	BP 350
Maximum power (P_{max}) ³	50W
Voltage at Pmax (V_{mp})	17.3V
Current at Pmax (I_{mp})	2.89A
Warranted minimum P_{max}	45W
Short-circuit current (I_{sc})	3.17A
Open-circuit voltage (V_{oc})	21.8V
Temperature coefficient of I_{sc}	(0.065±0.015)%/ °C
Temperature coefficient of V_{oc}	-(80±10)mV/°C
Temperature coefficient of power	-(0.5±0.05)%/ °C
NOCT (Air 20°C; Sun 0.8kW/m ² ; wind 1m/s)	47±2°C
Maximum series fuse rating	20A
Maximum system voltage	600V (U.S. NEC & IEC 61215 rating) 1000V (TÜV Rheinland rating)



Mechanical Characteristics

Dimensions	Length: 839mm (33")	Width: 537mm (21.1")	Depth: 50mm (1.97")
Weight	6.0 kg (13.2 pounds)		
Solar Cells	72 cells (42mm x 125mm) in a 4x18 matrix connected in 2 parallel strings of 36 in series		
Junction Box	U-Version 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.		
Diodes	One 9A, 45V Schottky by-pass diode included		
Construction	Front: High-transmission 3mm (1/8 th inch) tempered glass; Back: Tedlar; Encapsulant: EVA		
Frame	Clear anodized aluminum alloy type 6063T6 Universal frame; Color: silver		

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. These data represent the performance of typical BP 350 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



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



Approval by Factory Mutual Research in NEC Class 1, Division 2, Groups C & D hazardous locations is pending

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

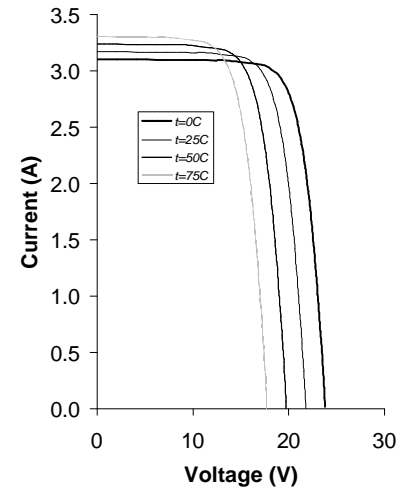


Framed modules listed by Underwriter's Laboratories for electrical and fire safety (Class C fire rating)

Qualification Test Parameters

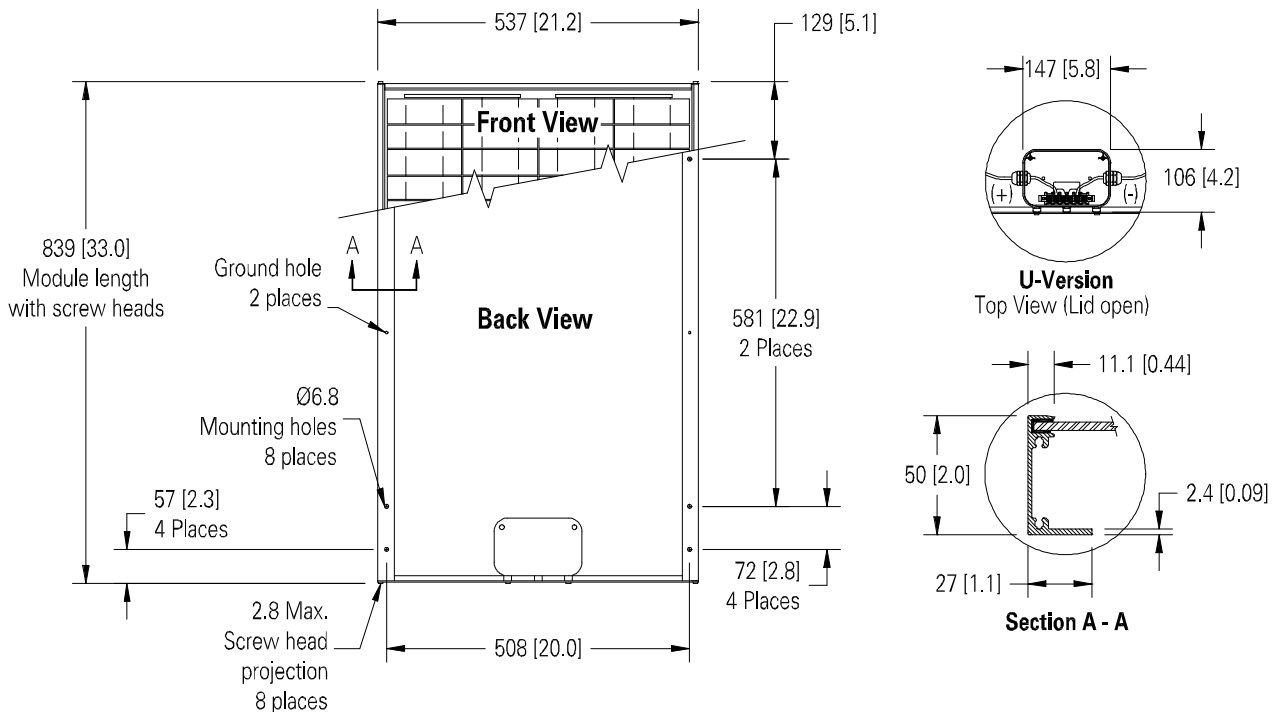
Temperature cycling range	-40°C to +85°C (-40°F to 185°F)
Humidity freeze, damp heat	85% RH
Static load front and back (e.g. wind)	50psf (2400 pascals)
Front loading (e.g. snow)	113psf (5400 pascals)
Hailstone impact	25mm (1 inch) at 23 m/s (52mph)

BP 350 I-V Curves



Module Diagram

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. Additional information may be found on our web site: www.bpsolar.com

