

## 50 Watt Photovoltaic Module

# BP 350

4022E-1 10/03

The BP 350 is an advanced 50W photovoltaic module, using cells with SiN coating that addresses the needs of rural electrification for remote homes that do not have access to the utility grid and remote industrial applications such as telemetry and instrumentation systems. This product offers improved efficiency through the use of advanced polycrystalline cells and a 12V nominal power output, making it ideal for battery charging applications. It has proven performance at high temperatures and its robust design makes the product durable in the field and easy to install.

### Performance

Rated power	50W
Module efficiency	11.1%
Nominal voltage	12V
Warranty	90% power output over 12 years 80% power output over 25 years Free from defects in materials and workmanship for 5 years

### Configuration

BP 350U	Clear Universal frame and robust junction box
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### Qualification Test Parameters

Temperature cycling range	-40°C to +85°C for 200 cycles
Damp heat test	85°C and 85% relative humidity for 1000h
Front & rear static load test (eg: wind)	2400 Pa
Front load test (eg: snow)	5400 Pa
Hailstone impact test	25mm hail at 23m/s from 1m distance

### Quality and Safety

- Manufactured in ISO 9001 and ISO 14003 certified factories
- Conforms to European Community Directive 89/33/EEC, 73/23/EEC, 93/68/EEC
- Certified to IEC 61215

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)

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

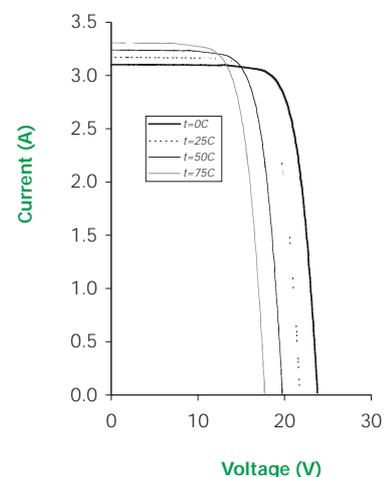


BP 350U scale 1:14

### Efficiency (%)

9-11	11-12	12-13	13-14	14-15
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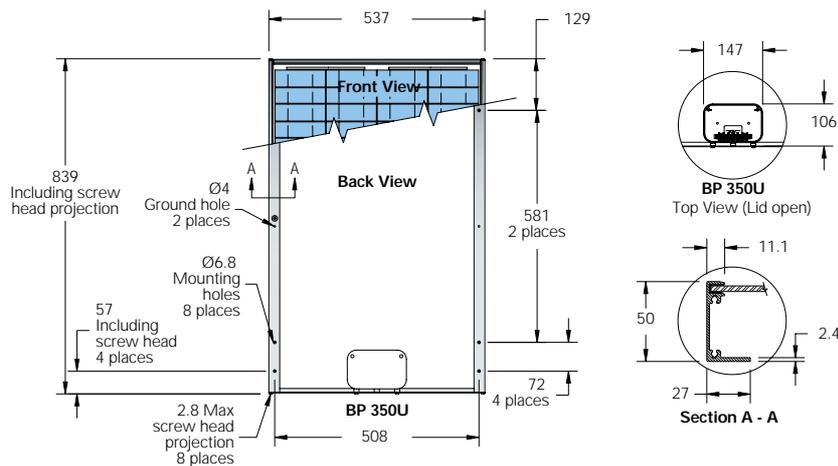
### BP 350 I-V Curves



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### Module Diagram



Self-tapping grounding screw, instruction sheet and warranty document included with each module.

### Typical Electrical Characteristics

### BP 350U

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

Standard test conditions - irradiance of 1000W/m<sup>2</sup> at an AM1.5G solar spectrum and a temperature of 25°C.

### Mechanical Characteristics

### BP 350U

Dimensions (mm) (Overall tolerances +/-3mm)	839 x 537 x 50
Weight (kg)	6.0
Frame	Clear anodised aluminium alloy type 6063T6. Silver Universal frame.
Solar cells	72 cells (42mm x 125mm) configured geometrically for 2 parallel strings of 36 for a 4 x 18 matrix.
Junction box	IP54 junction box with 6-terminal screw protection connection block, accepts PG 13.5, M20, 13mm conduit, or cable fittings accepting 6-12mm diameter cable. Terminals accept 2.5 to 10mm <sup>2</sup> (8 to 14 AWG) wire.
Diodes	One 9A, 45V Schottky by-pass diode included.
Construction	Front: High transmission 3mm tempered glass Rear: Blue tedlar; Encapsulant: EVA.

Your BP Solar Distributor:

