bp solar

80Watt Photovoltaic module

BP 380

08 4076E-1 05/08

The BP 380J is part of the BP Solar Poly 3-Series. It is an advanced 80W photovoltaic module with 12V nominal power output, making it ideal for battery charging applications. It addresses the needs of various battery based applications, such as caravan, boats, homes that do not have access to the utility grid and rural electrification. Other appliances are in remote industrial applications such as telemetry, security sensors and instrumentation systems. The 36 cells are connected in series and offer improved efficiency even under low light conditions through the use of advanced SiN coating. It has proven performance at high temperatures and its robust design makes the product durable in the field in almost any climate. This module has undergone the most rigorous testing to ensure reliable long term performance. The junction box is prepared with screw type terminals for flexible installation. There are two precasted holes for each size of cable glands, as ½'' and M20.

BP 380J scale 1:14

Performance

Rated power	80W
Tolerance	±5%
Module efficiency	12.3%
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

*Refer to BP Solar's Warranty document for terms and conditions.

Efficiency (%)

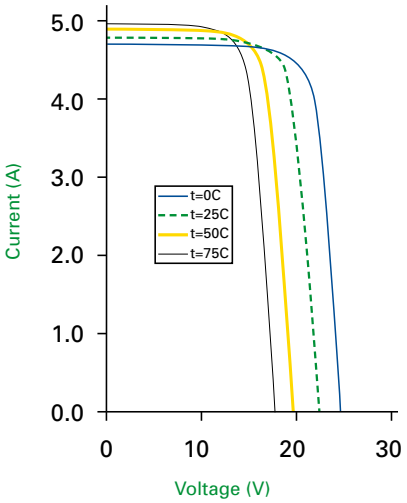
9 - 10	10 - 11	11 - 12	12 - 13	13 - 14

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 load test (eg: wind)	2400Pa (equivalent to 245kg/m² load distributed)
Front load test (eg: snow and wind)	5400Pa* (equivalent to 550kg/m² load distributed)
Hailstone impact test	25mm hail at 23m/s from 1m distance

*When mounted in accordance with BP Solar's installation instructions

BP 380J I-V Curves



Quality and safety

- Conforms to European directives.
- Certified according to the IEC 61215 (Crystalline silicon terrestrial photovoltaic modules – Design qualification and type approval)
- Framed modules certified by TÜV Rheinland as Safety Class II (IEC 60364) equipment for use in systems up to 600 VDC
- Listed by Underwriters Laboratories for electrical and fire safety (UL 1703 - Class C fire rating).
- Module electrical measurements are calibrated to world radiometric reference via third party international laboratories.
- Manufactured in ISO 9001 certified factories.
- This data sheet complies with the requirements of EN 50380.

CE IEC

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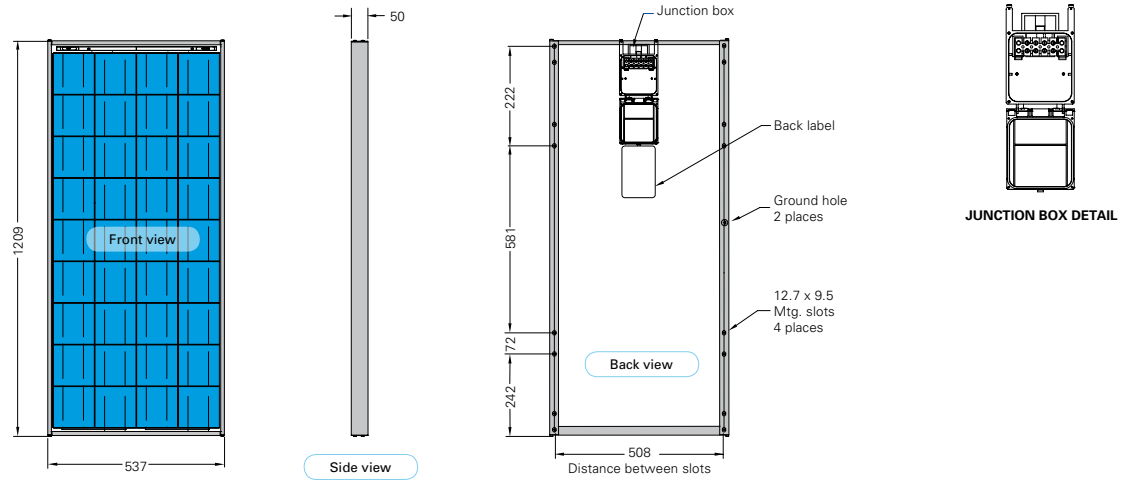
Module diagram



Electrical characteristics

	1000W/m² (STC[1])	800W/m² (NOCT[2])
Maximum power (P_{max})	80W	57.6W
Voltage at MPP (V_{mpp})	17.6V	15.7V
Current at MPP (I_{mpp})	4.5A	3.6A
Short circuit current (I_{sc})	4.8A	3.9A
Open circuit voltage (V_{oc})	22.1V	20.2V

Efficiency reduction at 200W/m²	<5% reduction (efficiency 11.7%)
Limiting reverse current	4.8A
Temperature coefficient of I_{sc}	(0.065±0.015)%/K
Temperature coefficient of V_{oc}	-(0.36±0.05)%/K
Temperature coefficient of P	-(0.5±0.05)%/K
NOCT[3]	47±2°C
Maximum series fuse rating	20A
Maximum system voltage	600V
Application class (according to IEC 61730)	Class A

[1]STC: Standard test conditions - irradiance of 1000W/m² at an AM1.5G solar spectrum and a temperature of 25°C.
[2]800W/m², NOCT, AM 1.5G solar spectrum.
[3]NOCT: Nominal Operation Cell Temperature Sun 800W/m²; Air 20°C; wind speed 1m/s.

Mechanical characteristics

Solar cells	36 polycrystalline cells (125mm x 125mm) connected in series.
Front Cover	High transmission 3.2mm tempered glass.
Encapsulant	EVA
Back Cover	White polyester.
Frame	Silver anodised aluminium.
Diodes	IntegraBus™ technology includes 2 Schottky bypass diodes - one for every 18 cells - on a printed circuit board.
Junction Box	BP J-type junction box: IP 65 junction box with 4 terminal screw connection block, accepts PG13.5, M20, 13mm conduit, or cable fittings accepting 6-12mm diameter cable. Terminals accept 2.5-10mm² wire. Dimensions (mm) 163.50 x 112.50 x 37.5. IP65; certified to meet UL1703 flammability test.
Dimensions (mm)	1209±3 x 537±3 x 50
Weight (kg)	7.7

All dimensional tolerances within ±1% unless otherwise stated.

This publication summarises product warranty and specifications which are subject to change without notice. All solar modules are individually tested prior to shipment. During the stabilization process that occurs during the first few months of deployment, module power may decrease by approx. 1% from typical P_{max}.

Your BP Solar distributor:

www.bpsolar.com