

85Watt Photovoltaic module

BP 485J

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The BP 485J is part of the BP Solar Mono 4-Series. It is an advanced 85W 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.

Performance

Rated power	85W
Tolerance	±5%
Module efficiency	13.1%
Nominal voltage	12V
Warranty*	93% power output over 12 years 85% 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.

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 50psf load distributed)
Front load test (eg: snow and wind)	5400Pa* (equivalent to 112psf load distributed)
Hailstone impact test	25mm hail at 23m/s from 1m distance

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

Quality and safety

- Conforms to European directives.
- Certified according to the IEC 61215 (Crystalline silicon terrestrial photovoltaic modules – Design qualification and type approval) and to the IEC 61730 (Photovoltaic module safety qualification, requirements for construction and testing).
- Listed to UL 1703 Standard for Safety by Intertek ETL (Class C fire rating).
- Approved by Intertek ETL for use in Class 1, Division 2, Groups A to D hazardous locations.
- Module electrical measurements are calibrated to world radiometric reference via third party international laboratories.
- Manufactured in ISO 9001 and ISO 14001 certified factories.
- This data sheet complies with the requirements of EN 50380.

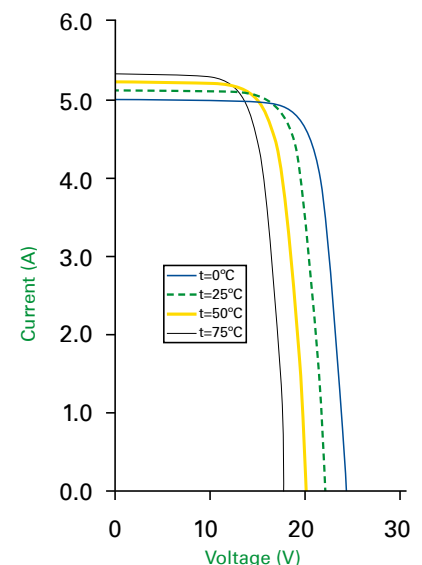


BP 485J

Efficiency (%)

9 - 10	10 - 11	11 - 12	12 - 13	13 - 14
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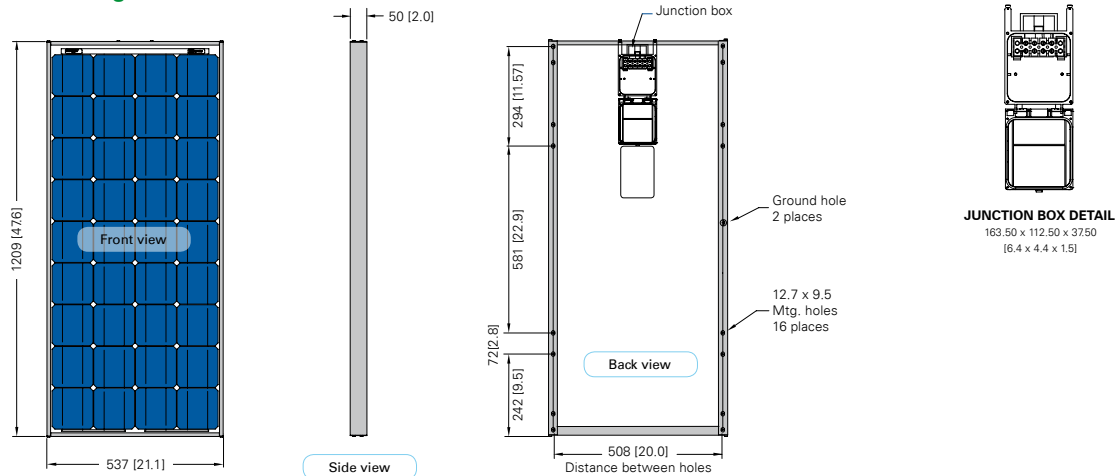
BP 485J I-V Curves



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Module diagram



Dimensions in mm [in].

Electrical characteristics

	1000W/m ² (STC ¹)	800W/m ² (NOCT ²)
Maximum power (P _{max})	85W	61.2W
Voltage at MPP (V _{mpp})	17.8V	15.8V
Current at MPP (I _{mp})	4.8A	3.8A
Short circuit current (I _{sc})	5.1A	4.1A
Open circuit voltage (V _{oc})	22.2V	20.2V
Efficiency reduction at 200W/m ²	<5% reduction (efficiency 13.1%)	
Limiting reverse current	5.1A	
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	

¹STC: Standard test conditions - irradiance of 1000W/m² at an AM1.5G solar spectrum and a temperature of 25°C.

²800W/m², NOCT, AM 1.5G solar spectrum.

³NOCT: Nominal Operation Cell Temperature Sun 800W/m²; Air 20°C; wind speed 1m/s.

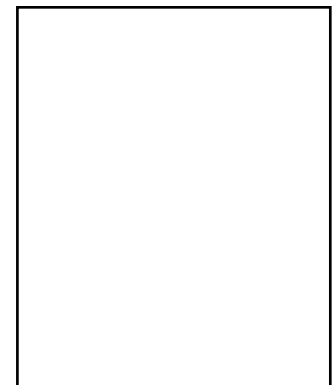
Mechanical characteristics

Solar cells	36 monocrystalline cells (125mm x 125mm) connected in series.
Front Cover	High transmission 3.2mm tempered glass.
Encapsulant	EVA
Back Cover	White polyester.
Frame	Silver anodized 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 2.5-10mm ² wire. Certified to meet UL1703 flammability test.
Dimensions	1209 x 537 x 50mm / 47.6 x 21.1 x 2.0in
Weight	7.7kg / 17.0lbs

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