

80 Watt Photovoltaic Module

BP 380

4017E-2 02/04

The BP 380 is an advanced 80W photovoltaic module that uses cells with anti-reflective SiN coating. This solar module is as equally suited to grid connect applications, such as residential systems or installations on commercial roofs, as traditional photovoltaic applications such as telecommunications and rural electrification. The BP 380 offers a superior price – performance relationship due to its reliability, white tedlar back sheet and 36 advanced polycrystalline cells connected in series.

Performance

Rated power	80W
Module efficiency	12.6%
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 380S	Clear Universal frame with output cables and polarized Multicontact (MC) connectors
BP 380L	Unframed laminate version of BP 380S
BP 380H	Clear Universal frame and robust junction box

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)

Laminates recognised by Underwriter's Laboratories for electrical and fire safety (Class C fire rating)

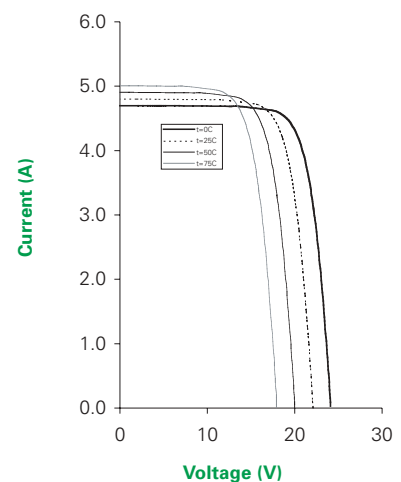


BP 380S scale 1:14

Efficiency (%)

9-11 | 11-12 | 12-13 | 13-14 | 14-15

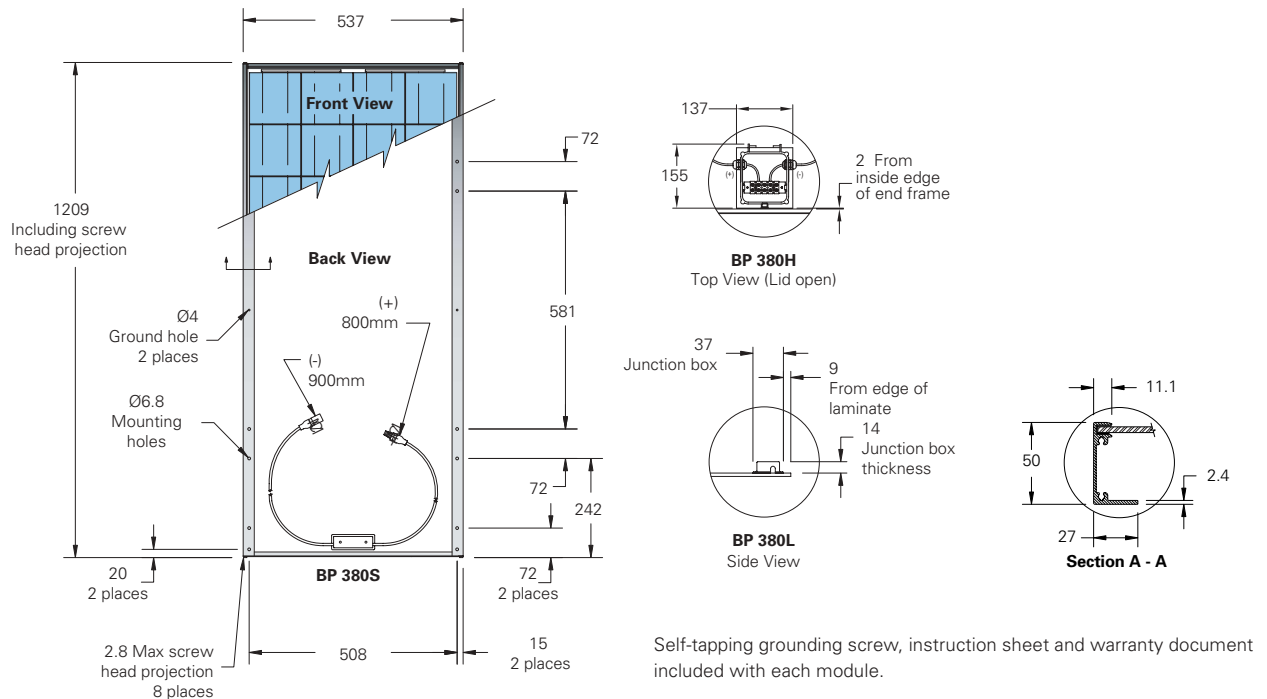
BP 380 I-V Curves



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Module Diagram



Typical Electrical Characteristics

BP 380

Maximum power (P_{max})	80W
Warranted minimum power	76W
Voltage at P_{max} (V_{mp})	17.6V
Current at P_{max} (I_{mp})	4.55A
Short circuit current (I_{sc})	4.8A
Open circuit voltage (V_{oc})	22.1V
Temperature coefficient of I_{sc}	(0.065±0.015)%/K
Temperature coefficient of V_{oc}	-(80±10)mV/K
Temperature coefficient of P_{max}	-(0.5±0.05)%/K
NOCT (Air 20°C; Sun 0.8kW/m ² ; wind speed 1m/s)	47±2°C
Maximum series fuse rating	15A (BP 380S / BP 380L) / 20A (BP 380H)
Maximum system voltage	600V (IEC 61215 rating) 1000V (TÜV Rheinland rating)

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

Mechanical Characteristics

BP 380S / BP 380H

BP 380L

Dimensions (mm) (Overall tolerances +/-3mm)	1209 x 537 x 50	1197 x 530 x 19
Weight (kg)	7.7	6.1
Frame	Clear anodised aluminium alloy type 6063T6. Silver Universal frame.	
Solar cells	36 cells (125mm x 125mm) configured geometrically for a 4 x 9 matrix connected in series.	
Junction box (BP 380H)	IP65 junction box with 6 terminal screw connection block, accepts M20 or cable fittings accepting 7 – 14mm diameter cable. Terminals accept 2.5 – 10mm ² (8 to 14 AWG) wire.	
Output cables (BP 380S / BP 380L)	RHW AWG# 12 (4mm ²) cable with polarized weatherproof DC rated Multicontact connectors; asymmetrical lengths 900mm (-) and 800mm (+).	
Diodes	Two 9A, 45V Schottky by-pass diodes included.	
Construction	Front: High transmission 3mm tempered glass. Rear: White tedlar; Encapsulant: EVA.	

Your BP Solar Distributor:

