

Technical Description



Photovoltaic Module NP46GK



36 polycrystalline Si solar cells

Main application: general off-grid PV systems

Module Electrical Performance under Standard Test Conditions

Refers to standard test conditions of 1000 Wm^{-2} solar irradiance, 25°C cell temperature, Air Mass 1.5.

Note: Maximum power point is subject to +10%/-5% variation. All other values are typical and for guidance only.

Maximum Power Point: 46 Watts, 2.54 Amps at 18.1 Volts.

Short Circuit: 2.76 Amps. Open circuit: 22.0 Volts.

Dimensions and Weight

all dimensions +/- 2mm, weight approximately +/-0.3kg

Length: 540mm. Width: 670mm. Thickness at edge: 34mm. Weight: 4.4kg

Construction

Top cover material: low iron tempered glass 3mm

Encapsulant (lamination material): EVA

2 factory-fitted bypass diodes

2 x 4mm earthing holes in frame

Rear cover material: Tedlar-Polyester-Tedlar white

Frame: anodised aluminium

1 junction box type S1410-2

Integral mounting holes

8 holes, size 7mm.

Along length: 270/498mm centre to centre, 135/21mm centre to module edge.

Across width: 628/334mm centre to centre, 21/168mm centre to module edge.

Cell circuit

Cut from full size cells into 1/3 of a cell

Cell dimensions: Length (tab direction) 52mm. Width: 156mm.

Electrical circuit: 36 cells in series

Cell layout: 4 rows, each row is 9 cells long.

Normal Operating Cell Temperature (NOCT)

47°C

error in measurement around +/- 2°C

Cell temperature at 800 Wm^{-2} solar irradiance, 20°C ambient temperature, wind speed $\leq 1 \text{ ms}^{-1}$, free air access to rear.

Efficiencies based on Standard Test Conditions Rating

Module: 12.7%

Laminated area: 12.9%

Cells alone: 15.8%

Note: Standard Test Conditions efficiency figures should only be used to compare one module with another. These efficiency figures do not apply to actual field performance, for which a careful analysis of operating conditions is necessary to determine the effects of module temperature and other factors.

Specifications may change due to Naps policy of continuous product improvement.

Please check current specification before purchasing.

Information last updated: 26-Nov-10

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