

# Shell Solar

## Product Information Sheet

### Shell S25 Photovoltaic Solar Module

#### General

The Shell S25 module contains 36 series connected 125 x 41.5 mm multi-crystalline silicon solar cells.

The Shell S25 can generate a peak power of 24 watt at 16.5 volt.

The Shell S25 module has been designed for rural applications.

#### Qualifications and Certificates

The Shell S25 solar module meets the following requirements:

- IEC 61215

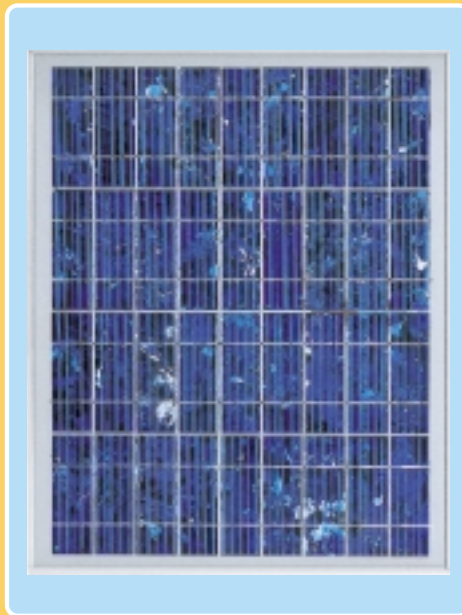


All Shell Solar modules are produced in EN-ISO 9001 certified factories.

#### Limited Warranties

- Peak Power for 10 years
- Product workmanship for 2 years

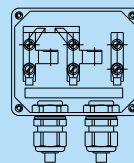
#### Shell S25 Module



#### Junction Box

The junction box provides a high quality, dust and watertight IP65-rated housing for the rigid connection block with screw terminals.

Maximum outside cable diameter: 12 mm  
Type of protection: IP65



#### Benefits

- Highly transparent tempered glass ensuring high impact resistance and protection against hail, snow, ice and storms.
- Tedlar® aluminium foil backing for absolute moisture protection.
- Lightweight anodized aluminium frame with pre-drilled holes for easy installation.
- International quality certificates and standards to ensure consistently high quality modules.
- Shell Solar can provide expert advice on photovoltaic solar modules and their application.

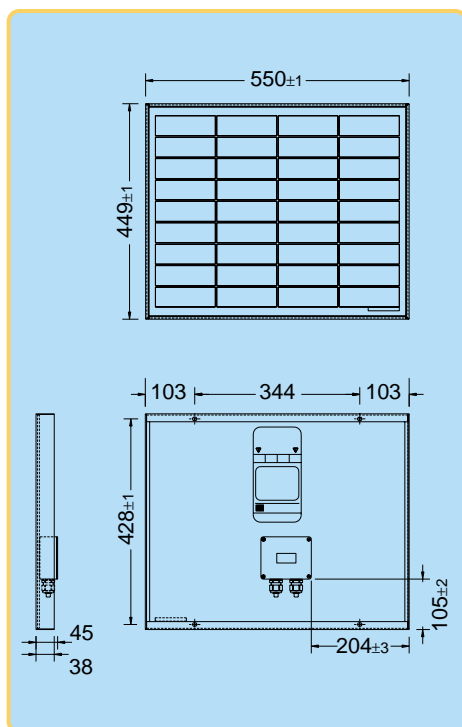


**ELECTRICAL EQUIPMENT,  
CHECK WITH YOUR INSTALLER**

Due to continuous research and product improvement the specifications in this Product Information Sheet are subject to change without notice. Specifications can vary slightly. For installation and operation instructions, see the applicable manuals. No rights can be derived from this Product Information Sheet and Shell Solar assumes no liability whatsoever connected to or resulting from the use of any information contained herein.

# Shell S25 Photovoltaic Solar Module

## Mechanical Specifications Module



Outside dimensions (mm)	550 x 449
Thickness (inc. junction box) (mm)	45
Thickness (exc. junction box) (mm)	38
Weight (kg)	3.4

For installation instructions, please refer to the **Installation Manual** which is available from Shell Solar.

## Electrical Characteristics

### Data at Standard Test Conditions (STC)

STC: irradiance level 1000W/m<sup>2</sup>, spectrum AM 1.5 and cell temperature 25°C.

Rated peak power	$P_r$	24W
Peak power	$P_{mpp}$	24W
Peak power voltage	$V_{mpp}$	16.5V
Open circuit voltage	$V_{oc}$	21.4V
Short circuit current	$I_{sc}$	1.50A
Current at 14V	$I_{14}$	1.40A
Minimum peak power	$P_{mpp,min}$	22.5W

The abbreviation 'mpp' stands for Maximum Power Point.

### Typical data at Nominal Operating Cell Temperature (NOCT) conditions

NOCT: 800W/m<sup>2</sup> irradiance level, AM 1.5 spectrum, wind velocity 1m/s,  $T_{amb}$  20°C.

Temperature	$T_{NOCT}$	44°C
Mpp power	$P_{mpp}$	17.6W
Mpp voltage	$V_{mpp}$	14.9V
Open circuit voltage	$V_{oc}$	19.7V
Short circuit current	$I_{sc}$	1.21A

### Typical data at low irradiance

The relative reduction of module efficiency at an irradiance of 200W/m<sup>2</sup> in relation to 1000W/m<sup>2</sup> both at 25°C cell temperature and AM 1.5 spectrum is 8%.

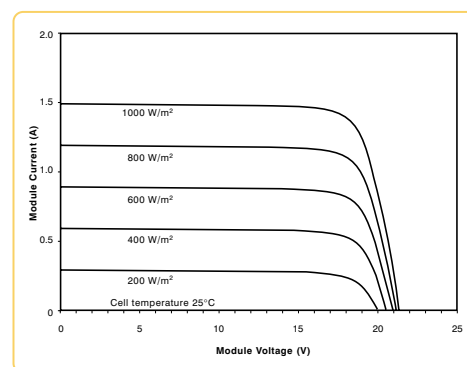
### Temperature coefficients

$\alpha P_{mpp}$	-0.45 %/°C
$\alpha V_{mpp}$	-76 mV/°C
$\alpha I_{sc}$	+0.7 mA/°C
$\alpha V_{oc}$	-76 mV/°C

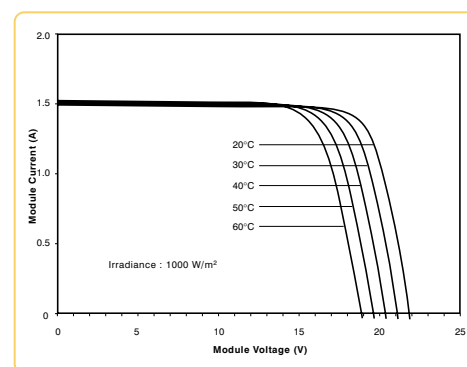
Maximum system voltage: 100Vdc

## Typical I/V Characteristics

The I/V graph below shows the typical performance of the solar module at various levels of irradiance.



The I/V graph below shows the typical performance of the solar module at various cell temperatures.



References in this Product Information Sheet to 'Shell Solar' are to companies and other organisational entities within the Royal Dutch/Shell Group of Companies that are engaged in the photovoltaic solar energy business. Shell Solar was set up in 1999 and has its principal office in Amsterdam, the Netherlands.

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