

# Shell Solar

## Product Information Sheet

### Shell SQ70 Photovoltaic Solar Module

#### General

The Shell SQ70 module contains 36 series connected 125 x 125 mm PowerMax® mono-crystalline silicon solar cells.

The Shell SQ70 can generate a peak power of 70 watts at 16.5 volts.

The Shell SQ70 solar module has been designed for grid connected and industrial applications.

#### Qualifications and Certificates

The Shell SQ70 solar module meets the following requirements:

- IEC 61215 (Pending)
- UL - Listing 1703
- FM approved
- TÜV Safety Class II (Pending)



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

#### Limited Warranties

- Peak Power for 25 years\*

\*See Shell Solar Limited Warranty for PV-Modules

#### Shell SQ70 Module



#### Junction Box

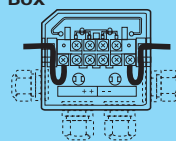
The junction box provides a high quality, dust protected and splash proof IP54-rated housing. The housing contains a rigid connection block with screw terminals and by-pass diodes providing "hot spot" protection for the solar cells.

##### ProCharger™ - CR Junction Box

Maximum conductor cross-section: 4 mm<sup>2</sup>

Type of protection: IP54

Number of by-pass diodes: 2



#### Benefits

- PowerMax® mono-crystalline solar cells deliver maximum power output even under reduced light conditions.
- Dense packing of cells provides more power where space is a limitation and creates a uniform aesthetic.
- Ideal for large grid connected systems where high power density minimizes system costs.
- Tight electrical specifications guarantee industry leading energy yield performance.
- Highly transparent tempered glass delivers more power and ensures high impact resistance and protection against hail, snow, ice, and storms.
- Over 300MW of cumulative installed experience has been applied to the evolution of our mono-crystalline range to ensure that our products have a long and reliable service life backed by a 25 year warranty.



## Mechanical Specifications Module

A torsion and corrosion-resistant anodized aluminium frame ensures dependable performance, even under harsh weather conditions. Pre-drilled mounting holes are provided for ease of installation.

## 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 power	$P_r$	70W
Peak power	$P_{mpp}$	70W
Peak power voltage	$V_{mpp}$	8.25*/16.5V
Peak power current	$I_{mpp}$	8.50*/4.25A
Open circuit voltage	$V_{oc}$	10.7*/21.4V
Short circuit current	$I_{sc}$	9.4*/4.7A
Series fuse rating		15A
Minimum peak power	$P_{mpp\ min}$	65W

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	$T_{NOCT}$	46°C
Mpp power	$P_{mpp}$	50.4W
Mpp voltage	$V_{mpp}$	14.7V
Open circuit voltage	$V_{oc}$	19.5V
Short circuit current	$I_{sc}$	3.8A

\* The Shell SQ70 may be reconfigured in the field for 6V operation

### Typical data at low irradiance

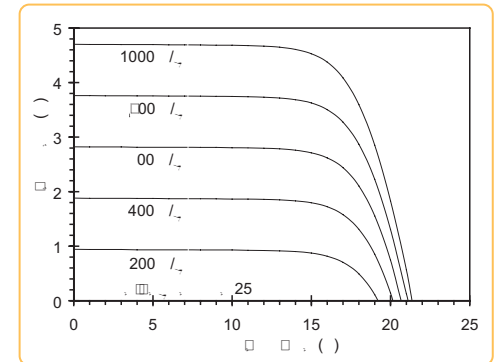
The relative reduction of module efficiency at an irradiance of 200W/m<sup>2</sup> in relation to 1000W/m<sup>2</sup> both at 25°C cell temperature and AM 1.5 spectrum is 8%.

### Temperature coefficients

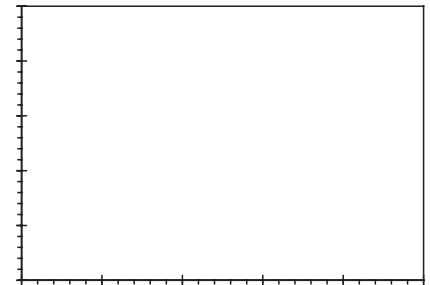
$\alpha P_{mpp}$	-0.52%/°C
$\alpha V_{mpp}$	-84mV/°C
$\alpha I_{sc}$	1.4mA/°C
$\alpha V_{oc}$	-81mV/°C

## 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.



Outside dimensions (in)	47.2 x 20.8
Thickness (inc. junction box) (in)	2.2
Thickness (exc. junction box) (in)	1.3
Weight (lbs)	16.7

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

