

Shell Solar

Product Information Sheet

Shell SQ140-PC Photovoltaic Solar Module

General

The Shell SQ140-PC module contains 72 series connected 125 x 125 mm PowerMax® mono-crystalline silicon solar cells.

The Shell SQ140-PC can generate a peak power of 140 watts at 33.0 volts.

The Shell SQ140-PC solar module has been designed for grid connected and industrial applications.

The Shell SQ140-P is the non-cable version of the Shell SQ140-PC and is available upon special order. The Shell SQ140-P does not include the cable and fitting assembly.

Qualifications and Certificates

The Shell SQ140-PC solar module meets the following requirements:

- IEC 61215 (Pending)
- UL – Listing 1703
- FM approved (Shell SQ140-P only)
- 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 SQ140-PC Module

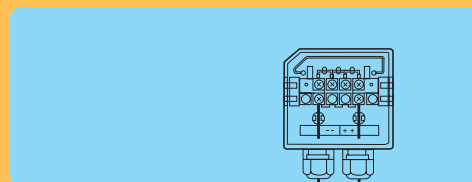


Junction Box

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.

For ease of installation, the junction box includes male and female MultiContact® flying cables.

The universal junction box design allows for easy, field replacement of diode or cable assemblies.



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.
- Cables and MultiContact® plugs pre-assembled to reduce installation time in grid connected applications



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.

Outside dimensions (in)	63.9 x 32.1	
Thickness (inc. junction box) (in)	2.2	
Thickness (exc. junction box) (in)	1.6	
Weight (lbs)	38	
Cable length	- male (in)	51
Cable length	+ female (in)	39

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/m², spectrum AM 1.5 and cell temperature 25°C

Rated power	P_r	140W
Peak power*	P_{mpp}^*	140W
Peak power voltage	V_{mpp}	33V
Peak power current	I_{mpp}	4.25A
Open circuit voltage	V_{oc}	42.8V
Short circuit current	I_{sc}	4.7A
Series fuse rating		15A
Minimum peak power	$P_{mpp\ min}$	133W
*Tolerance on Peak Power		±5%

The abbreviation 'mpp' stands for Maximum Power Point.

Typical data at Nominal Operating Cell Temperature (NOCT) conditions

NOCT: 800W/m² irradiance level, AM 1.5 spectrum, wind velocity 1m/s, T_{amb} 20°C

Temperature	T_{NOCT}	46°C
Mpp power	P_{mpp}	102W
Mpp voltage	V_{mpp}	30.2V
Open circuit voltage	V_{oc}	39.1V
Short circuit current	I_{sc}	3.8A

Typical data at low irradiance

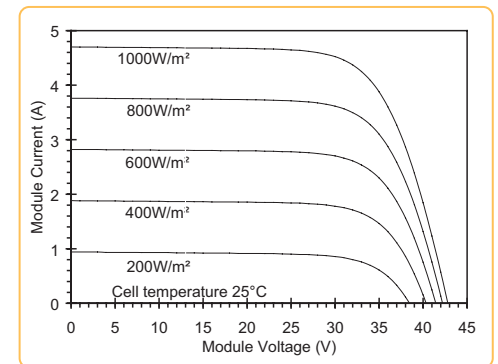
The relative reduction of module efficiency at an irradiance of 200W/m² in relation to 1000W/m² both at 25°C cell temperature and AM 1.5 spectrum is 8%.

Temperature coefficients

αP_{mpp}	-0.52%/°C
αV_{mpp}	-167mV/°C
αI_{sc}	1.4mA/°C
αV_{oc}	-161mV/°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.

