

QS Solar QS90W Amorphous Thin-Film Module



Product Information Sheet

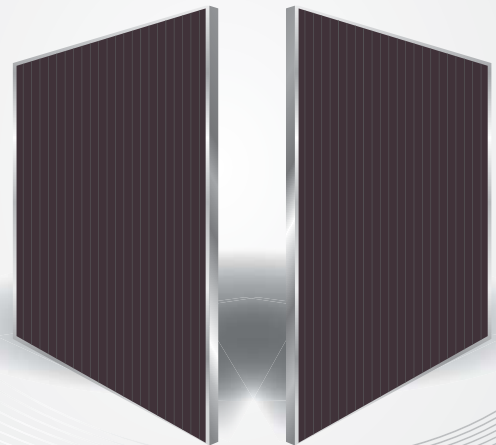
General

- The QS Solar Thin-Film panel is made using advanced Amorphous Silicon Technology (a-Si)
- The QS Solar QS90W can deliver 90 Watts at standard test conditions
- The QS Solar QS90W can be used for residential and commercial applications as well as for solar farms

About QS Solar

- QS Solar has his own unique manufacturing process giving the lowest sustainable production cost & reliable product quality
- QS Solar has fully committed to an environmentally friendly production cycle
- QS Solar is ISO 9001 and ISO 14001 Certified

90W Module



Limited Warranties

- 5 Years product warranty
- 90% of the specified minimum output of the module for a 10 years period
- 80% of the specified minimum output of the module for a 25 years period

**Munich Re
Insured**

Qualifications and Certificates

The QS Solar QS90W panels have been tested and qualified by :



Installation Cables

Two solar grade UV stable cables compatible with MC4 standard can facilitate a variety of mounting schemes and permit easy field wiring

Benefits

- Generate more power at dawn, during twilight or cloudy days due to higher low light sensitivity. In the same location, thin film panels can generate 10% to 15% more electricity per year than crystalline silicon panels
- Better performance at higher temperature compared to Crystalline Silicon Cells due to lower temperature coefficient. Outdoor panels normally operate at much higher temperature than the standard test temperature 25°C (77 °F). Under most real operating temperature, electricity generated by crystalline modules decrease substantially more than the power generated by Amorphous Silicon modules. This makes Amorphous Silicon Modules the best choice for higher temperature applications
- Less sensitivity to exact mounting angle makes the Amorphous Silicon panels also suitable for none perfect mounting angles on existing buildings and often reduces installation costs because of less complicated mounting structures
- Amorphous Silicon thin film panels require far less silicon materials than traditional crystalline technology, need far less energy during production and do not use any polluting material like other types of thin film panels, thereby saving costs and protecting the environment today and in the future

www.qssolar.com



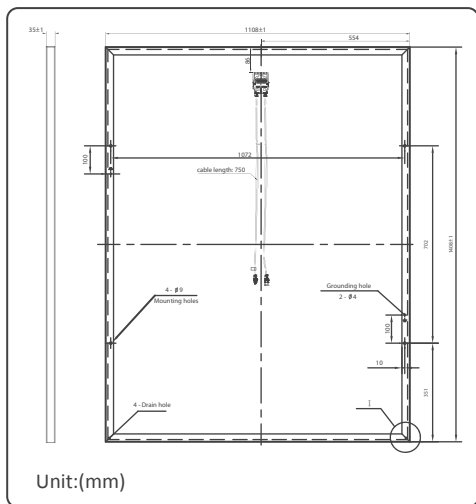
ELECTRICAL EQUIPMENT,
CHECK WITH YOUR INSTALLER

QS Solar QS90W

Amorphous Thin-Film Module

Mechanical Specifications

High reliable glass to glass laminate withstanding standard mechanical loads. Optional aluminum frame for increasing strength and with predrilled mounting holes for easy installation. Aluminum frame has special dripholes to prevent moisture build up.



	Framed	Unframed
Outside length (mm)	1408±1	1400±1
Outside width (mm)	1108±1	1100±1
Thickness (mm) (incl. junction box)	35±1	25±2
Thickness (mm) (excl. junction box)	35±1	7.6±1
Weight (kg)	30.5	27.5

For detailed installation instructions information, please refer to the **Installation Manual** from QS 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	Pr	90.0W
Peak power	Pmpp	90.0W
Peak power voltage	Vmpp	89.1V
Peak power current	Impp	1.01A
Open circuit voltage	Voc	115.4V
Short circuit current	Isc	1.22A
Series fuse rating		3A
Minimum peak power	Pmpp min	85.5W

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, Tamb 20°C

Temperature	TNOCT	45°C
Mpp power	Pmpp	70.3W
Mpp voltage	Vmpp	85.79V
Mpp current	Impp	0.82A
Open circuit voltage	Voc	107.78V
Short circuit current	Isc	0.99A

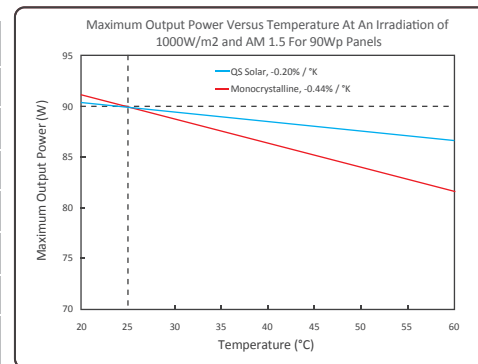
Temperature coefficients

α Pmpp	-180mW/°C
α Vmpp	-160mV/°C
α Impp	1.3mA/°C
α Voc	-346mV/°C
α Isc	0.8mA/°C

Maximum system voltage: 1000V DC

Typical Characteristics

The graph below shows the typical performance of the solar module at various levels of temperature



References in this QS SOLAR product information sheet are aiming to provide our professional analytic datas to our customers and companies that are involved in the photovoltaic solar energy business. QS group was set up in 1992 and has offices in Asia and Europe and also has a warehouse in France

QS Solar
Powering Your Future

For further information on all QS Solar products contact:

QS Solar
Tel: +86 21 5257 0303 Fax: +86 21 6275 3211
Email: sales@qssolar.com
Website: www.qssolar.com



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 installation manuals. No rights can be derived from this Product Information Sheet and QS Solar assumes no liability whatsoever connected to or resulting from the use of any information contained herein