

# Amorphous-Si Thin Film Photovoltaic Module

## *A Greener Earth for Tomorrow*

The MHI MA series is a cost-effective photovoltaic modules installable in any site not subject to mounting space constraints. MHI realized a high-performance, high-quality, manufacturing process for the large modules using advanced PCVD (plasma chemical vapor deposition), a key proprietary technology for the mass production of thin film (amorphous silicon) photovoltaic modules.

A thin film photovoltaic module is made from silane gas by depositing thin layers of semiconductor alloys on a glass substrate. In addition to its environmental advantages over the crystalline photovoltaic module (less energy used for manufacturing, less silicon required, shorter energy payback time), the thin film photovoltaic modules has a weatherproof structure and performs stably under high temperatures during summer. These features make the MA series an ideal solution for grid-connected power systems for commercial and residential facilities.



## FEATURES

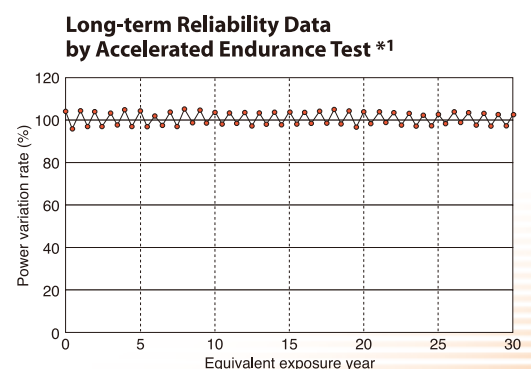
### Quality and Safety

The MA series is awarded the following international certifications:

- Manufactured in an ISO 9001 certified factory
- IEC 61646 and IEC 61730 certified

### Long Term Reliability

MHI's thin film photovoltaic modules maintain stable power output over a long period. The test results performed by the third party organization indicate very few variations in power generation as below.



\*1: Accelerated endurance test result by AIST  
(National Institute of Advanced Industrial Science and Technology)

# MA100

**Nominal maximum power of 100 watts.**  
**MA100 is the advanced module in terms of product reliability and customer satisfaction.**

## Major Improvements of MA100

- 3-series connection is available by 600 V of maximum system voltage.
- MA100 is easy to install and connect.

The largest (1.4 m x 1.1 m) and most cost-effective module is the MA100 encased in an aluminum frame. The MA100 is especially well suited for the grid-connected systems of commercial buildings and industrial facilities. Very high voltage makes it easy to design layouts and cabling configurations with fewer connections for most applications.

## SPECIFICATIONS

### MA100 Principal Specifications

Model	MA100
Module type	Amorphous Silicon (PIN single junction)

#### Mechanical characteristics

Dimensions	L 1,414 x W 1,114 x T 35 mm
Weight	Approx. 21 kg

#### Electrical characteristics

Maximum power	100 W
Maximum power voltage	105 V
Maximum power current	0.96 A
Open circuit voltage	135 V
Short circuit current	1.20 A
Maximum system voltage	600 V

#### Temperature coefficients

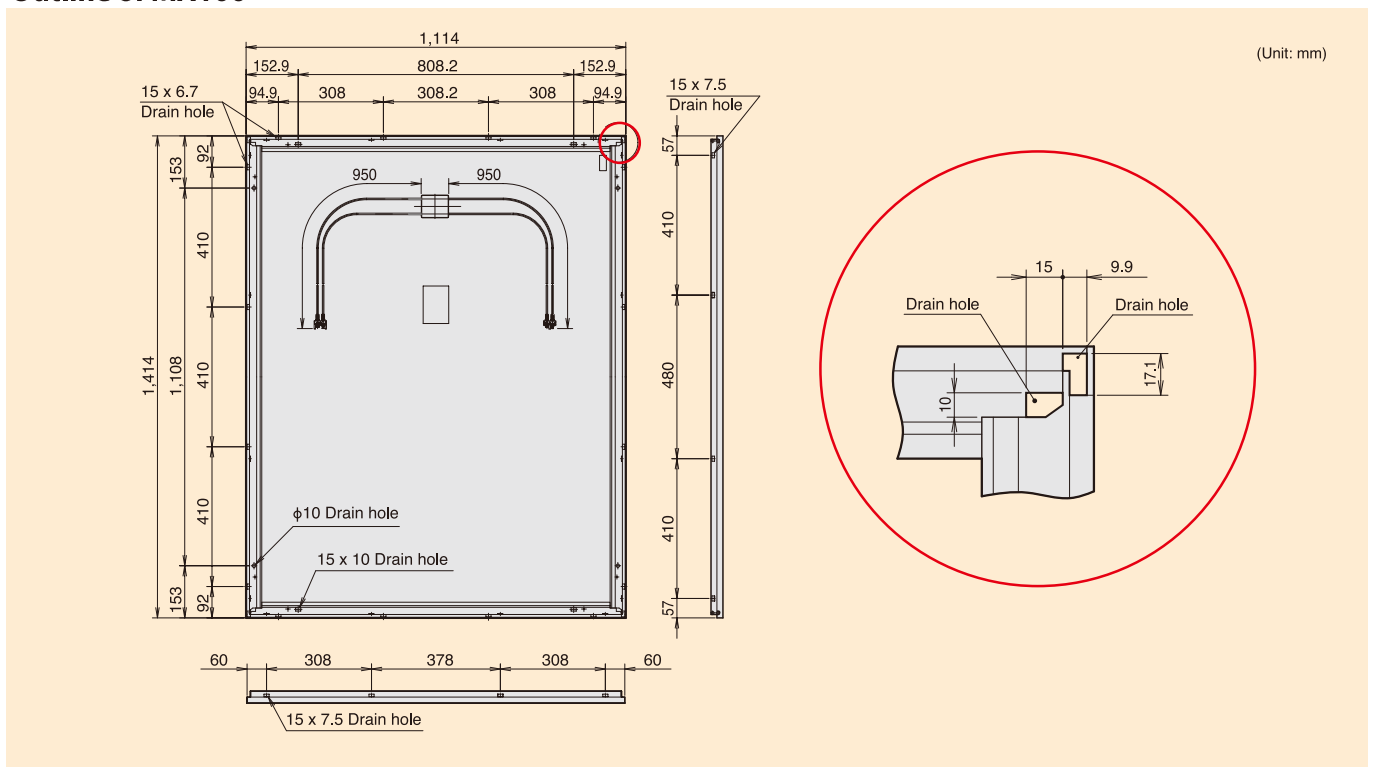
Maximum power (W)	-0.20%/°C
Maximum power voltage (V)	-0.32%/°C
Maximum power current (A)	+0.14%/°C
Open circuit voltage (V)	-0.33%/°C
Short circuit current (A)	+0.09%/°C

Measurements made under the standard test conditions (STC):

- Irradiance of 1 kW/m<sup>2</sup>
- Spectrum of AM1.5
- Module temperature of 25°C

\* MHI reserves its rights to change without prior notice the contents of this data.

### Outline of MA100



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