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SPECIFICATION FOR  
 SOLAR MODULE  
**MODEL No. NA-F121A5**

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2. Please obey the instructions mentioned below for actual use of this module.
  - (1) Main applications of the modules as follows.
 

Grid-connected PV systems. $\Delta$ Telemeter system (Terminal), Village electrification, etc.
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  - (2) Please take proper steps in order to maintain reliability and safety, in case this module is used for the uses mentioned below which require high reliability.
 

Unit concerning control and safety of a vehicle (air plane, train, automobile, etc.), Traffic signal, Road sign, Security system, Other safety system, etc.
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  - (3) Please don't use for the uses mentioned below which required extremely high reliability.
 

Space equipment, Telecommunication system (Trunk), Nuclear control system, Medical system (relating to any fatal element), etc.
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PRESENTED

BY *Hajime Horinaka*  
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 Module development department  
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## 1. SCOPE

This document describes the specifications of solar module NA-F121A5

## 2. APPLICATION STANDARD

This module is designed to meet the requirement of the following standards.

- IEC 61646 Ed.1 Thin film PV modules – Design qualification and type approval.
- EN 61730-1 Photovoltaic (PV) module safety qualification  
Part 1: Requirements for construction
- EN 61730-2 Photovoltaic (PV) module safety qualification  
Part 2: Requirements for testing

## 3. NORMATIVE REFERENCES

The following normative documents contain the provisions which, through reference in this text, constitute provisions of this specification. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this specification are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below.

- IEC 60904-1 Photovoltaic devices - Part 1: Measurement of photovoltaic current-voltage characteristics.
- IEC 60904-3 Photovoltaic devices - Part 3: Measurement principles for terrestrial photovoltaic (PV) solar devices with reference spectral irradiance data.
- IEC 60904-9 Photovoltaic devices - Part 9: Solar simulator performance requirements.
- JIS C8939 Amorphous solar PV modules
- JIS C8991 Thin-film terrestrial photovoltaic (PV) modules – Design qualification and type approval

## 4. SPECIFICATION

### 4.1 Application class

This module is applied to application class A in accordance with EN 61730.

### 4.2 Materials

The materials used for the module shall comply with this specification and unless otherwise specified, the ones that fully meet the requirement of this specification shall be used in any case.

#### 4.2.1 Solar cells

Solar cells shall be produced from amorphous silicon (a-Si:H) and micro-crystalline silicon ( $\mu$ c-Si). The cell has the a-Si /  $\mu$ c-Si tandem structure.