

SHARP

Say yes to solar power!
Because it is the
Global Warming Solution.

NA-F121G5 **121W**

Thin-film silicon

Innovation from the photovoltaic pioneer

Sharp, as a solar specialist with 50 years of experience in photovoltaics (PV), makes an essential contribution towards groundbreaking advancements in solar technology.

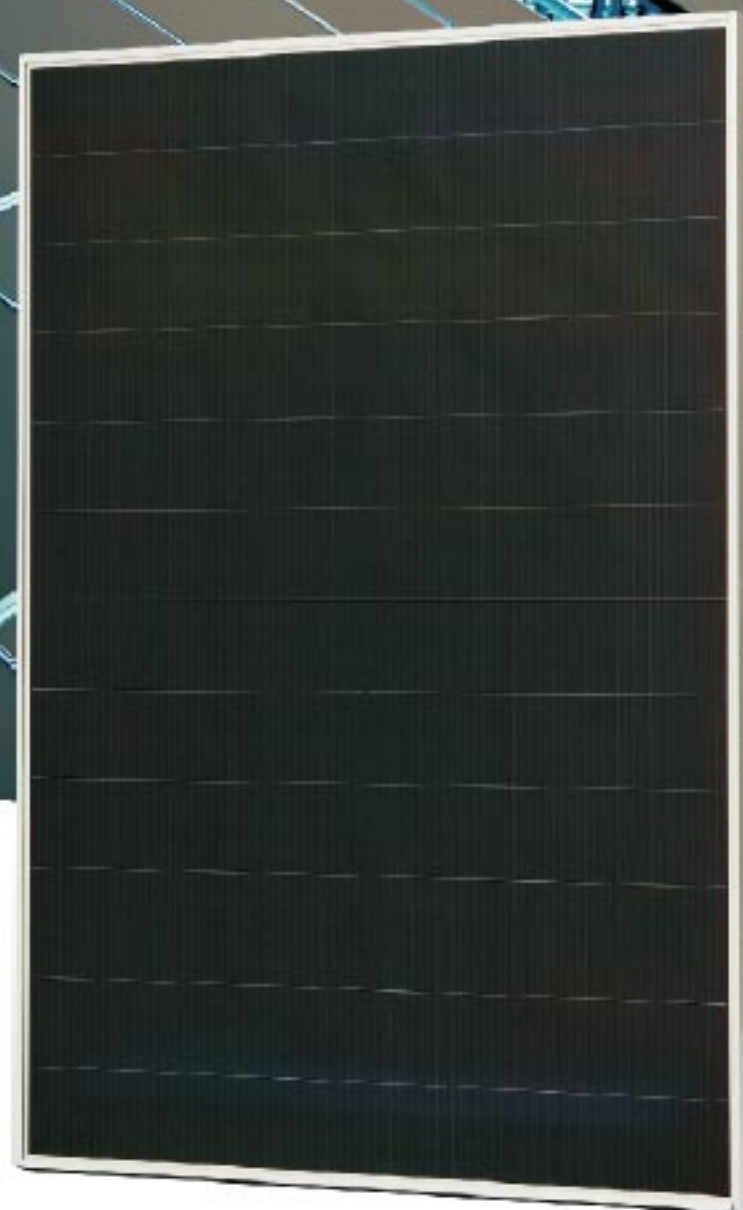
NA series thin-film photovoltaic modules consist of an amorphous and a microcrystalline silicon film.

This microamorphous tandem structure absorbs not only the visible but also the invisible components of the sun's spectrum and leads to especially effective utilisation of solar energy.

The Sharp NA series module offers optimal system integration - both technically and economically - and suitable for installation in on-grid and off-grid systems.

Product features

- Tandem structure comprising of an amorphous and a microcrystalline silicon film with stabilised module efficiency of up to 9 %.
- The black module creates a harmonious appearance.
- Higher energy yield per Watt both at high temperatures and with diffuse light.
- Use of annealed glass, EVA plastic and weather-protection foil, as well as an anodised aluminium frame with water drainage holes for prolonged use.
- Output: connection cable with water-protected plug connector.
- Qualified IEC 61646, EN : 61730 PV module safety standard



Mechanical data

Cell	Thin-film silicon (Amorphous Si/ microcrystalline Si tandem structure)
Solar cell strings	45 in series
Dimensions (LxWxD mm)	1409 x 1009 x 46 mm
Weight	19kg
Connection type	Multi-Contact PV-KBT3II/KST3II
Bypass diodes	One bypass diodes shall be installed in the terminal box

Limit values

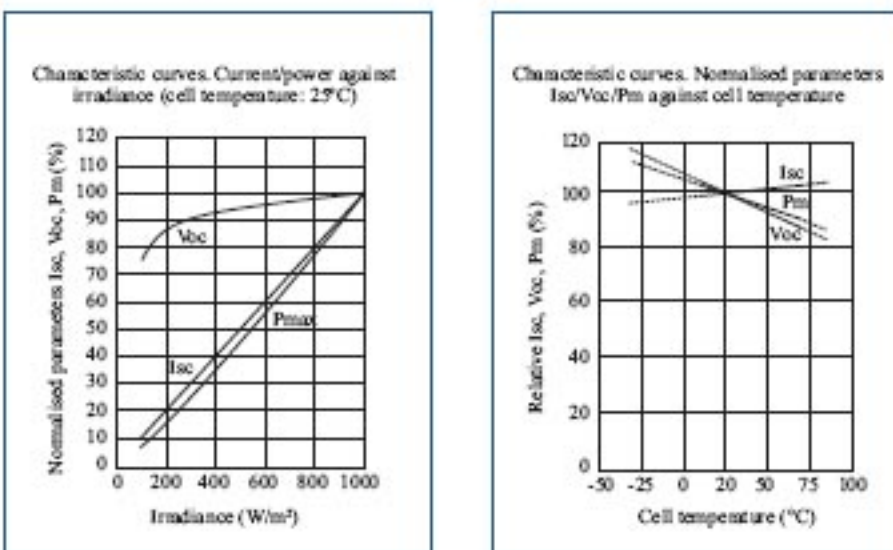
Storage humidity	Up to 90	%
Operating temperature (cell)	-40 to +90	°C
Storage temperature	-40 to +90	°C
Maximum system voltage	1,000	VDC
Maximum mechanical load	2,400	N/m ²

Electrical data

Module production in Japan		Initial value NA-F121G5	Nominal value NA-F121G5	
Rated power		142.4W	121 W	W
Open circuit voltage	V _{oc}	60.2	59.2	V
Short circuit current	I _{sc}	3.43	3.34	A
Voltage at maximum power	V _{pm}	48.2	45	V
Current at maximum power	I _{pm}	2.96	2.69	A
Module efficiency			8.5	%
Temperature coefficient open circuit voltage	$\alpha_{V_{oc}}$		-0.3	% / °C
Temperature coefficient short circuit current	$\alpha_{I_{sc}}$		0.070	% / °C
Temperature coefficient power	α_{P_m}		-0.24	% / °C
NOCT			44	°C

The electrical data applies under standard testing conditions (STC): Radiation 1,000W/m² with a spectrum of AM 1.5 and at a cell temperature of 25°C. The power output is subject to a manufacturing tolerance of + 10% and - 5%

Characteristic curves



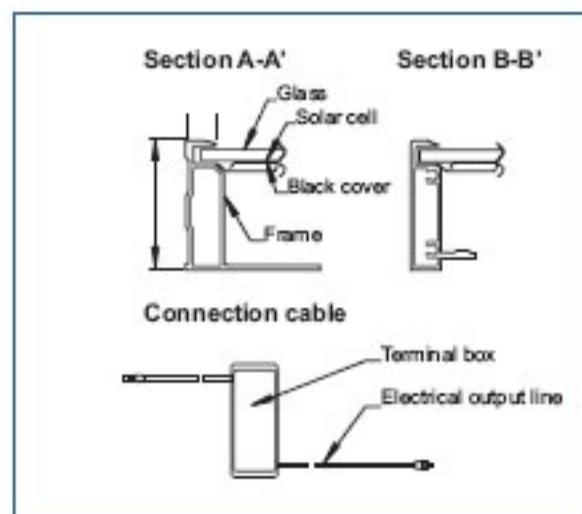
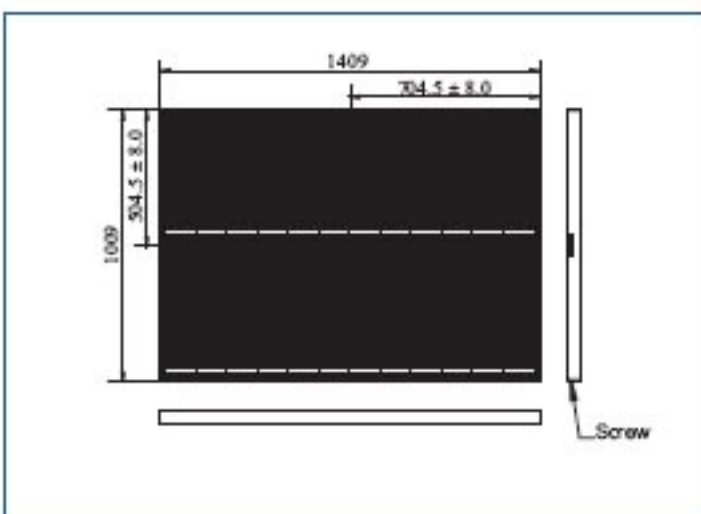
Applications

- On-grid PV systems
- Off-grid systems
- On-roof PV systems (roof parallel)
- On-roof PV systems (on stilts)
- Ground installations

The instructions in the installation guide must always be observed (e.g. Max 7 modules in a row, inverters without transformers are not permitted, 2 parallel lines must be protected with a blocking diode in each case).

A generator cabinet with the approved blocking diodes can be obtained from your sharp retailer.

External dimensions



Note

Modifications to technical data are possible without prior notice. Please request the current data sheets from Sharp before using Sharp products. Sharp assumes no responsibility for damage caused to equipment fitted with Sharp products based on unverified information.

The specifications may deviate slightly and are not guaranteed. Installation and operating instructions are to be obtained from the relevant manuals or can be downloaded from www.sharp-world.com.

This module should not be connected directly to a load.