



## NU-180A1H

Single-Crystalline Silicon  
Photovoltaic Module  
with 180W Maximum Power

### GENERAL DESCRIPTION

SHARP's NU-180A1H photovoltaic module is designed for large electrical power requirements. Based on the technology of crystal silicon solar cells cultivated for over 40 years, this module has superb durability to withstand rigorous operating conditions and is suitable for grid connected systems.

### FEATURES

- 1** High-power module (180W) using 156.5mm square single-crystal silicon solar cells with 13.7% module conversion efficiency.
- 2** Photovoltaic module with bypass diode minimizes the power drop caused by shade.  
Textured cell surface to reduce the reflection of sunlight  
BSF (Back Surface Field) structure to improve cell conversion efficiency
- 3** Using white tempered glass, EVA resin, and a weatherproof film along with an aluminum frame for extended outdoor use
- 4** High-voltage output for grid-connected system
- 5** Output terminal: Lead wire with waterproof connector

## SPECIFICATIONS

Cell	Single-crystalline silicon solar cells, 156.5mm square
No. of cells and connections	48 in series
Application	High voltage system
Maximum system voltage	DC 1000V
Maximum power	171.0 W (Min.)
Dimensions	1318 × 994 × 46mm
Weight	15.5kg

## ABSOLUTE MAXIMUM RATINGS

Parameters	Rating	Unit
Operating temperature	-40 to +90	°C
Storage temperature	-40 to +90	°C

## OUTPUT TERMINAL

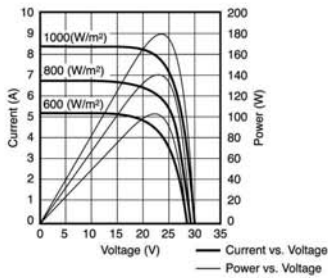
Type of output terminal	Lead wire with connector
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## ELECTRO-OPTICAL CHARACTERISTICS

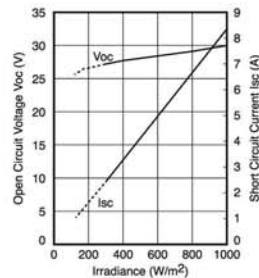
Model	NU-180(A1)				
Parameters	Symbol	Min.	Typ.	Unit	Condition
Open circuit voltage	Voc	—	30.0	V	Standard test condition(STC) :Irradiance 1000 W/m <sup>2</sup> :AM1.5 :Cell temperature 25°C
Maximum power voltage	V <sub>pm</sub>	—	23.7	V	
Short circuit current	Isc	—	8.37	A	
Maximum power current	I <sub>pm</sub>	—	7.60	A	
Maximum power	P <sub>m</sub>	171.0	180.0	W	
Module efficiency	η <sub>m</sub>	—	13.7	%	

## CHARACTERISTICS

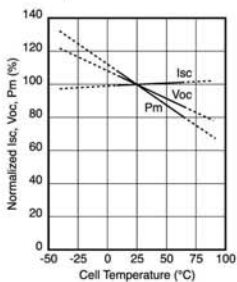
Current, Power vs. Voltage Characteristics  
(Module temperature: 25°C)



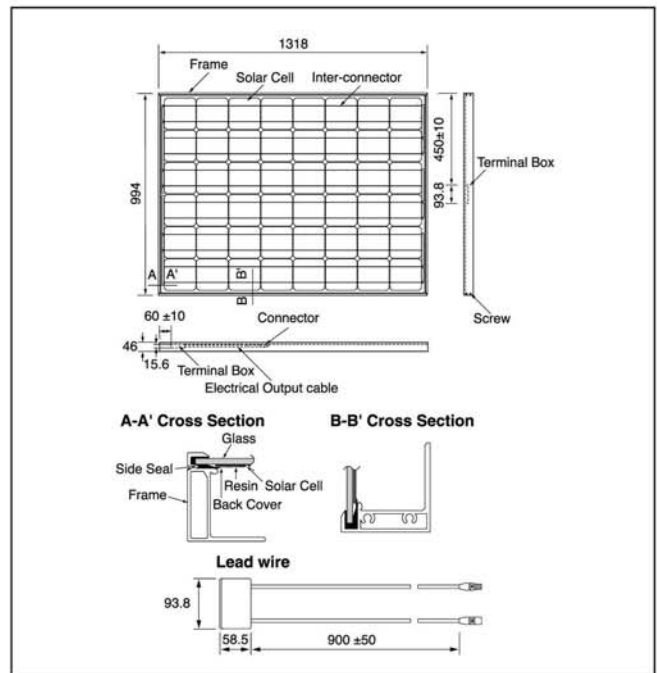
Open Circuit Voltage, Short Circuit Current  
vs. Irradiance Characteristics  
(Module temperature: 25°C)



Normalized Isc, Voc, P<sub>m</sub> vs. Module  
Temperature Characteristics



## OUTLINE DIMENSIONS



In the absence of confirmation by specification sheets, SHARP takes no responsibility for any defects that may occur in equipment using any SHARP products shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest specification sheets before using any SHARP products.

• Specifications are subject to change without notice.

## APPLICATIONS

- Grid connected residential systems
- Office buildings
- Solar power stations
- Solar villages
- Villas, mountain cottages
- Pumps
- Lighting equipment
- Traffic signs
- Radio relay stations
- Beacons
- Telemeter systems
- Telecommunication systems

# SHARP

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