

SHARP



NT-S5E3E

Single-Crystalline Silicon
Photovoltaic Module
with 185W Maximum Power

GENERAL DESCRIPTION

SHARP's NT-S5E3E photovoltaic module is designed for large electrical power requirements. Based on the technology of crystal silicon solar cells cultivated for over 35 years, this module has superb durability to withstand rigorous operating conditions and is suitable for grid connected systems.

FEATURES

- 1** High-power module (185W) using 125mm square single-crystal silicon solar cells with 14.2% 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 and BSF (Back Surface Field) structure to improve cell conversion efficiency: 17.1%.
- 3** Using white tempered glass, EVA resin, and a weatherproof film along with an aluminum frame for extended outdoor use
- 4** DC 24V system and high-voltage output for grid-connected system
- 5** Output terminal: Lead wire with waterproof connector

SPECIFICATIONS

Cell	Single-crystalline silicon solar cells, 125mm square
No. of cells and connections	72 in series
Application	DC 24V system
Maximum system voltage	DC 1000V
Series fuse rating	10A
Maximum power	175.8 W (Min.)
Dimensions	1575 × 826 × 46mm
Weight	17.0kg

ABSOLUTE MAXIMUM RATINGS

Parameters	Rating	Unit
Operating temperature	-40 to +90	°C
Storage temperature	-40 to +90	°C
Dielectric voltage withstood	2200 max.	V-DC

OUTPUT TERMINAL

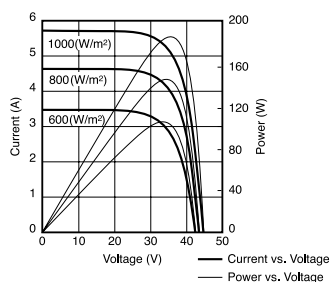
Type of output terminal	Lead wire with connector
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ELECTRO-OPTICAL CHARACTERISTICS

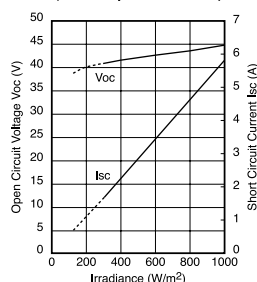
Model	NT-S5E3E				
Parameters	Symbol	Min.	Typ.	Unit	Condition
Open circuit voltage	V _{oc}	—	44.9	V	Irradiance: 1000 W/m ²
Maximum power voltage	V _{pm}	—	36.21	V	
Short circuit current	I _{sc}	—	5.75	A	
Maximum power current	I _{pm}	—	5.11	A	Module temperature: 25°C
Maximum power	P _m	175.8	185.0	W	
Encapsulated solar cell efficiency	η _c	—	17.1	%	
Module efficiency	η _m	—	14.2	%	

CHARACTERISTICS

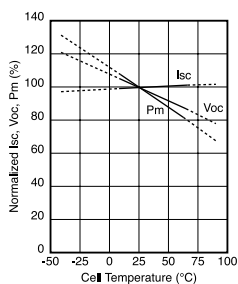
Current, Power vs. Voltage Characteristics
(Cell temperature: 25°C)



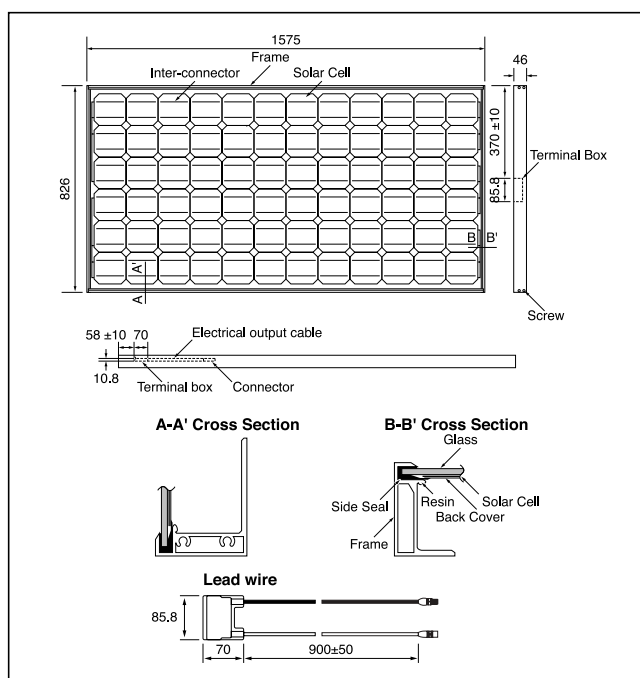
Open Circuit Voltage, Short Circuit Current
vs. Irradiance Characteristics
(Cell temperature: 25°C)



Normalized I_{sc}, V_{oc}, P_m vs. Cell
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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URL: <http://www.sharp-world.com/>

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