

SHARP



NT-R5E3E

Single-Crystalline Silicon
Photovoltaic Module
with 175W Maximum Power

GENERAL DESCRIPTION

SHARP's NT-R5E3E 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 (175W) using 125mm square single-crystal silicon solar cells with 13.5% 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: 16.4%.
- 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 | 166.3 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

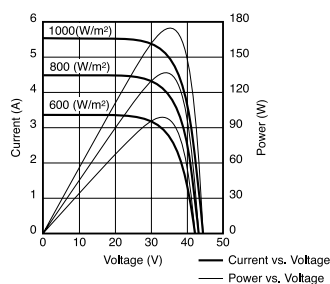
| | |
|-------------------------|--------------------------|
| Type of output terminal | Lead wire with connector |
|-------------------------|--------------------------|

ELECTRO-OPTICAL CHARACTERISTICS

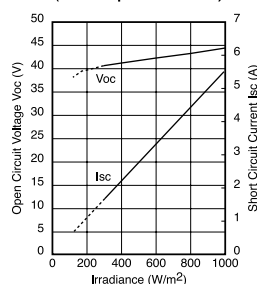
| Model | NT-R5E3E | | | | |
|------------------------------------|----------|-------|-------|------|--------------------------------------|
| Parameters | Symbol | Min. | Typ. | Unit | Condition |
| Open circuit voltage | Voc | — | 44.4 | V | Irradiance: 1000 W/m ² |
| Maximum power voltage | Vpm | — | 35.4 | V | |
| Short circuit current | Isc | — | 5.55 | A | |
| Maximum power current | Ipm | — | 4.95 | A | |
| Maximum power | Pm | 166.3 | 175.0 | W | Module temperature: 25°C |
| Encapsulated solar cell efficiency | η_c | — | 16.4 | % | |
| Module efficiency | η_m | — | 13.5 | % | |

CHARACTERISTICS

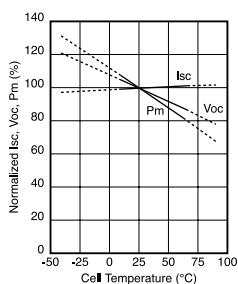
Current, Power vs. Voltage Characteristics
(Cell temperature: 25°C)



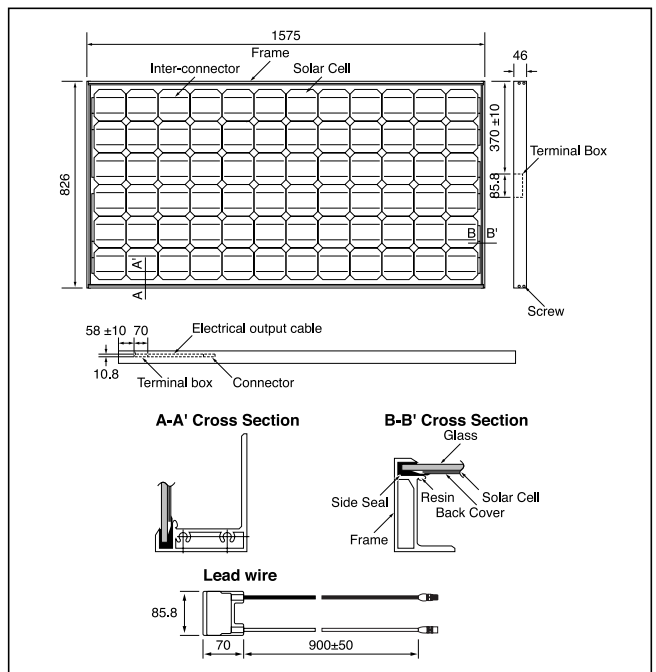
Open Circuit Voltage, Short Circuit Current
vs. Irradiance Characteristics
(Cell temperature: 25°C)



Normalized Isc, Voc, Pm 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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