SHARP

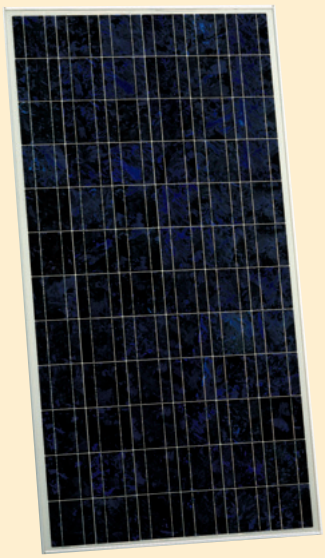
NEQ7E3E
167 W

Photovoltaic module polycrystalline



POLYCRYSTALLINE SILICON PHOTOVOLTAIC MODULE WITH 167 W NOMINAL POWER

Sharp's NEQ7E3E 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

- High-power module (167 W) using 125.5 mm square polycrystalline silicon solar cells with 12.8 % module conversion efficiency.
- Photovoltaic module with bypass diode minimises the power drop caused by shade. Anti reflection coating and BSF (Back Surface Field) structure to improve cell conversion efficiency.
- Using white tempered glass, EVA resin, and a weather-proof film along with an aluminium frame for extended outdoor use.
- Output terminal: Lead wire with waterproof connector.
- Hail damage resistance tested by TÜV in accordance with IEC61215.

Specifications NEQ7E3E

Cell	Polycrystalline silicon solar cells, 125.5 mm square
No. of cells and connections	72 in series
Maximum system voltage	1,000 V DC
Nominal power	167 W
Dimensions	1,575 x 826 x 46 mm
Weight	17.0 kg
Type of output terminal	Lead wire with connector

Ambient conditions

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

Temperature coefficients

αP_m	-0.485% / °C
αI_{sc}	+0.053% / °C
αV_{oc}	-156 mV / °C

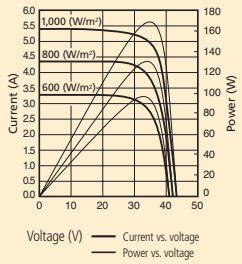
Electrical data

Parameters	Symbol	Min.	Typ.	Unit
Open circuit voltage	V_{oc}	–	43.1	V
Maximum power voltage	V_{pm}	–	34.6	V
Short circuit current	I_{sc}	–	5.37	A
Maximum power current	I_{pm}	–	4.83	A
Nominal power	P_m	158.7	167.0	W
Module efficiency	η_m	–	12.8	%

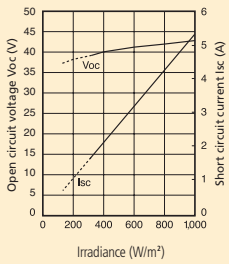
The electrical data applies under Standard Test Conditions (STC): Radiation 1,000 W/m² with a spectrum of AM 1.5 and at a cell temperature of 25 °C.

Characteristics

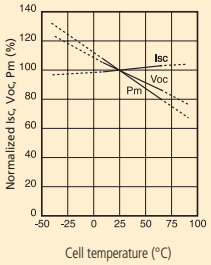
Current, power vs. voltage characteristics (cell temperature: 25 °C)



Open circuit voltage, short circuit current vs. irradiance characteristics (cell temperature: 25 °C)



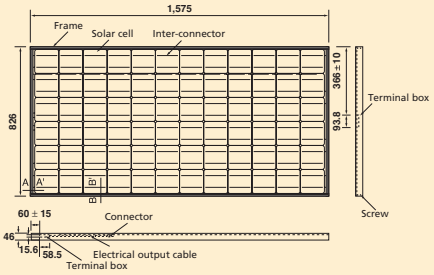
Normalized I_{sc}, V_{oc}, P_m vs. cell temperature characteristics

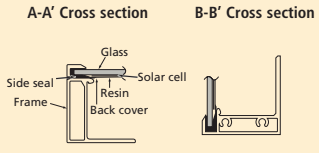


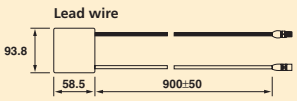
Application options

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

Outline dimensions







This module should not be connected to any direct load.

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.

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The reference image on the front side shows a 100 kWp PV system from Solar-direct in Satteldorf.