

SHARP

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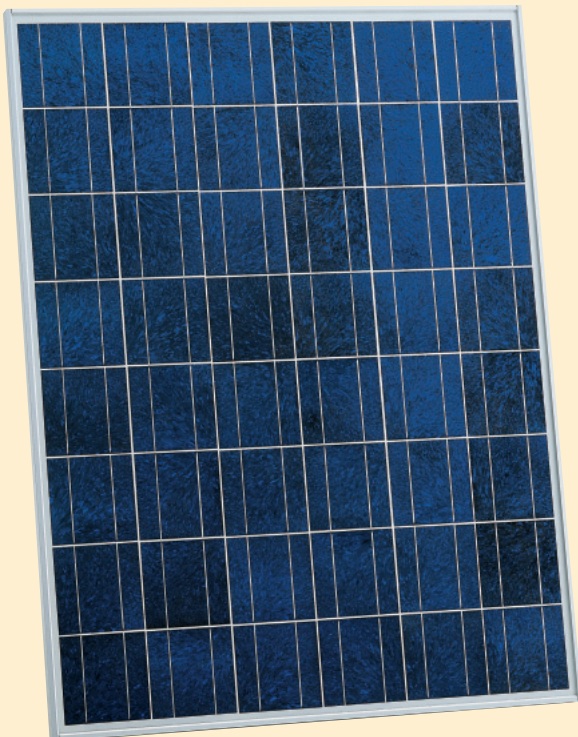
NDQ0E3E / ND160E1
160 W

Photovoltaics module polycrystalline



POLYCRYSTALLINE SILICON PHOTOVOLTAICS MODULE WITH 160 W MAXIMUM POWER

Sharp's NDQ0E3E / ND160E1 photovoltaics 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 (160 W) using 155.5 mm square polycrystalline silicon solar cells with 12.2 % module conversion efficiency
- Photovoltaic module with bypass diode minimizes the power drop caused by shade. Anti Reflection coating and BSF (Black Surface Field) structure to improve cell conversion efficiency: 13.8 %
- Using white tempered glass, EVA resin, and a weather-proof film along with an aluminium frame for extended outdoor use
- High-voltage output for grid-connected system
- Output terminal: Lead wire with waterproof connector
- NDQ0E3E: manufactured in Japan
ND160E1: manufactured in UK
Apart from the place of manufacture the models are identical in construction

The reference image above shows a 54 kWp pv system from Hochwind Solar in Frankenhofen.

Specifications NDQ0E3E / ND160E1

Cell	Polycrystalline silicon solar cells, 155.5 mm square
No. of cells and connections	48 in series
Application	High voltage system
Maximum system voltage	DC 1,000 V
Series fuse rating	10 A
Nominal power	160 W
Dimensions	1,318 x 994 x 46 mm
Weight	16.0 kg
Type of output terminal	Lead wire with connector

Absolute maximum ratings

Parameters	Rating	Unit
Operating temperature	-40 to +90	°C
Storage temperature	-40 to +90	°C
Dielectric voltage withstood	2,200 max.	V DC

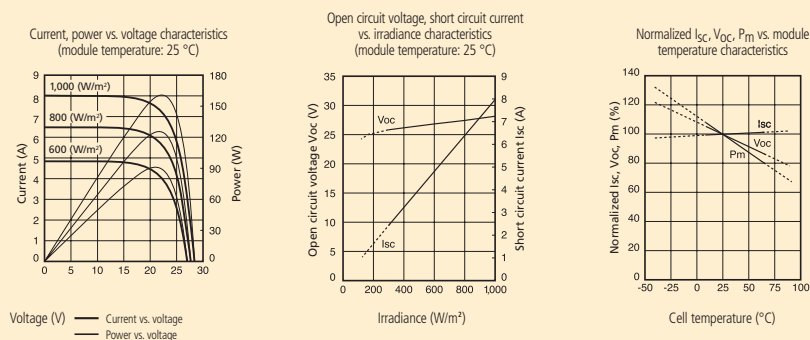
Temperature coefficients

αP_m	-0.485% / °C
αI_{SC}	+0.053% / °C
αV_{OC}	-104 mV / °C

Electro-optical characteristics

Parameters	Symbol	Min.	Typ.	Unit	Conditions
Open circuit voltage	V_{OC}	—	28.4	V	Standard test conditions (STC)
Maximum power voltage	V_{pm}	—	22.8	V	
Short circuit current	I_{SC}	—	7.82	A	Irradiance: 1,000 W/m ²
Maximum power current	I_{pm}	—	7.02	A	
Maximum power	P_m	152.0	160.0	W	AM 1.5
Encapsulated solar cell efficiency	η_c	—	13.8	%	Module temperature: 25 °C
Module efficiency	η_m	—	12.2	%	

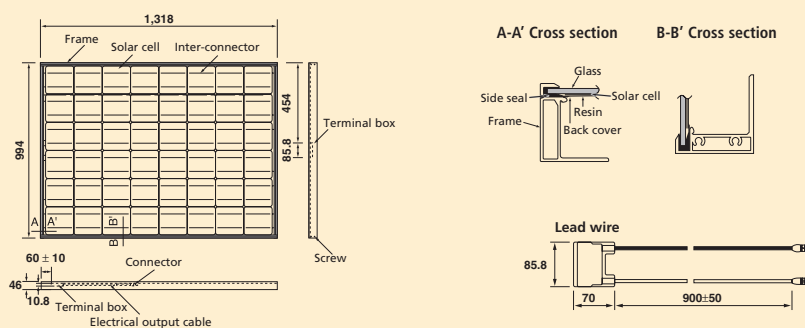
Characteristics



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

Outline dimensions



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Specifications are subject to change without notice.