

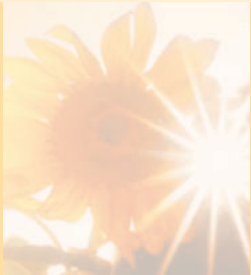
# SHARP

..... *be sharp*

NDQ0E3E / ND160E1

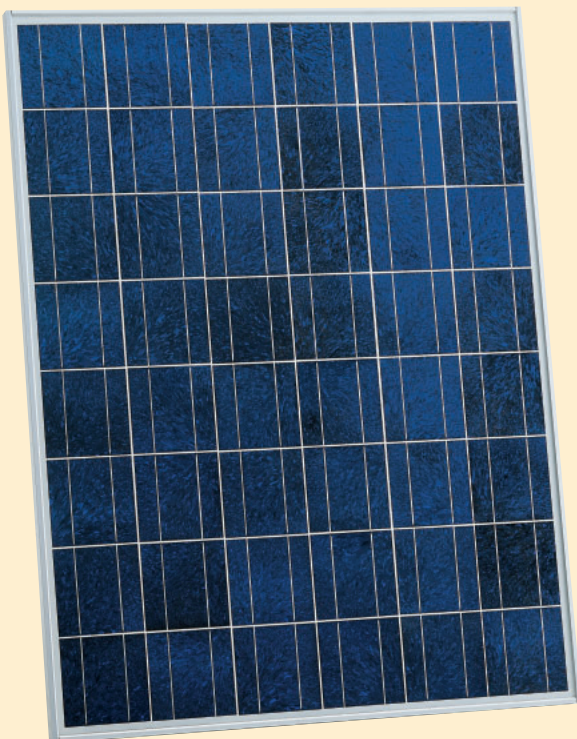
160 W

Photovoltaic module polycrystalline



## POLYCRYSTALLINE SILICON PHOTOVOLTAIC MODULE WITH 160 W MAXIMUM POWER

Sharp's NDQ0E3E / ND160E1 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 (160 W) using 155.5 mm square polycrystalline silicon solar cells with 12.2 % 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: 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

## Specifications NDQ0E3E / ND160E1

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

## Absolute maximum ratings

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

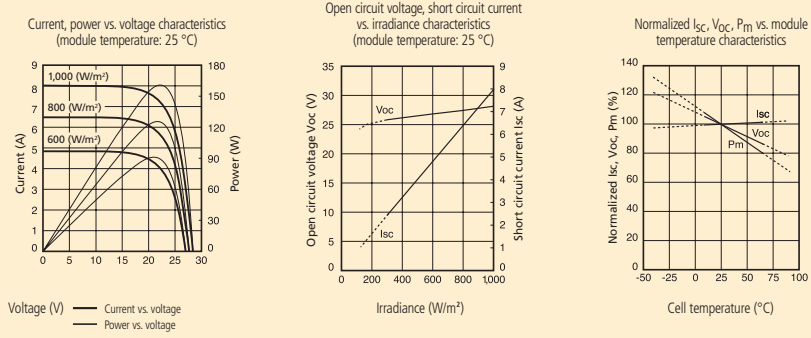
## Temperature coefficients

$\alpha P_m$	-0.485% / °C
$\alpha I_{SC}$	+0.053% / °C
$\alpha V_{OC}$	-104 mV / °C

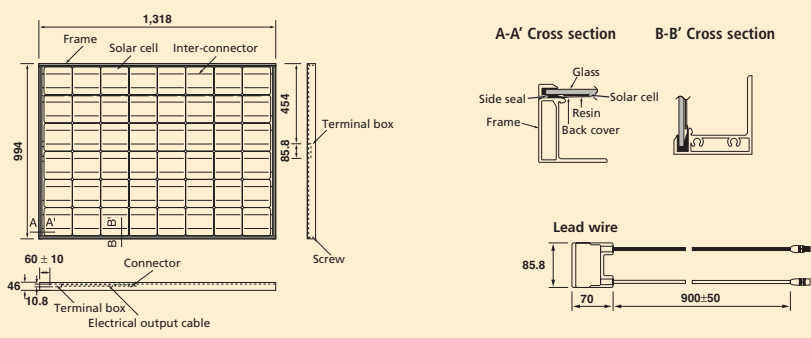
## Electro-optical characteristics

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 <sup>2</sup>
Maximum power current	$I_{pm}$	—	7.02	A	
Maximum power	$P_m$	152.0	160.0	W	AM 1.5
Encapsulated solar cell efficiency	$\eta_c$	—	13.8	%	Module temperature: 25 °C
Module efficiency	$\eta_m$	—	12.2	%	

## Characteristics



## Outline dimensions



## 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

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Specifications are subject to change without notice.

