HIT® photovoltaic module

SANYO

EN

HIT-N240SE10
HIT-N235SE10

R&D technology adaptation

Improvement of cell efficiency to reduce
- carrier recombination loss
- optical absorption loss
- resistance loss

New tab design

Application of three tabs
- Reducing electrical loss between the cell fingers and tabs
- Making the tab width thinner to expand the light receiving surface

Anti-reflection glass

Light capturing technology
- Reducing reflection and scattering of incoming light
- Improving generated electricity levels in morning and evening times

19.0*%
190 W/m²

* For HIT-N240SE10

HIT cell technology

The SANYO HIT (Heterojunction with Intrinsic Thin layer) solar cell is made of a thin monocrystalline silicon wafer surrounded by ultra-thin amorphous silicon layers. This product provides the industry's leading performance and value using state-of-the-art manufacturing techniques.

Environmentally friendly solar cell

HIT can generate more clean energy than other conventional crystalline solar cells.

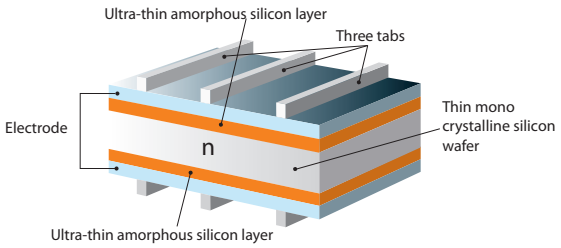
Special features

SANYO HIT solar modules are 100% emission free, have no moving parts and produce no noise. The dimensions of the HIT modules enable a space saving installation and the achievement of maximum output power possible on a given roof area.

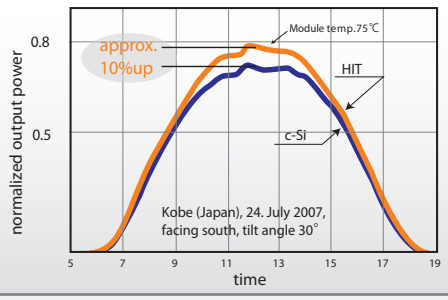
High performance at high temperatures

Even at high temperatures, the HIT solar cell can maintain higher efficiency than a conventional crystalline silicon solar cell.

HIT® solar cell structure



Changes in generated power daytime



HIT®
Photovoltaic Module

The HIT cell and module have very high conversion efficiency in mass production.

Model	Cell Efficiency	Module Efficiency	Output/m²
HIT-N240SE10	21.6%	19.0%	190 W/m²
HIT-N235SE10	21.1%	18.6%	186 W/m²

HIT is a registered trademark of SANYO Electric Co., Ltd. The name "HIT" comes from "Heterojunction with intrinsic Thin-layer" which is an original technology of SANYO Electric Co., Ltd.

Electrical and Mechanical Characteristics

HIT-N240SE10, HIT-N235SE10

EN

Electrical data (at STC)

	Models HIT-NxxxSE10 240	235
Maximum power (Pmax) [W]	240	235
Max. power voltage (Vmp) [V]	43.7	43.0
Max. power current (Imp) [A]	5.51	5.48
Open circuit voltage (Voc) [V]	52.4	51.8
Short circuit current (Isc) [A]	5.85	5.84
Maximum over current rating [A]	15	
Output power tolerance [%]	+10/-5*	
Maximum system voltage [V]	1000	

Note: Standard Test Conditions: Air mass 1.5, Irradiance = 1000W/m², cell temperature = 25°C
* All modules measured by SANYO facility have output with positive tolerance

Temperature characteristics	240	235
Temperature (NOCT) [°C]	44.0	44.0
Temperature coefficient of Pmax [%/°C]	-0.30	-0.30
Temperature coefficient of Voc [V/°C]	-0.131	-0.130
Temperature coefficient of Isc [mA/°C]	1.76	1.75

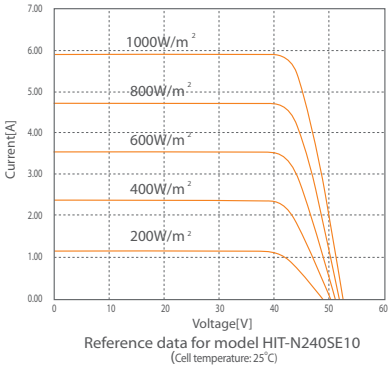
At NOCT	240	235
Maximum power (Pmax) [W]	182	179
Max. power voltage (Vmp) [V]	41.1	40.5
Max. power current (Imp) [A]	4.44	4.41
Open circuit voltage (Voc) [V]	49.4	48.9
Short circuit current (Isc) [A]	4.71	4.70

Note: Nominal Operating Cell Temperature : Air mass 1.5 spectrum, Irradiance = 800W/m², Air temperature = 20°C , wind speed 1 m/s

At low irradiance	240	235
Maximum power (Pmax) [W]	45.9	44.7
Max. power voltage (Vmp) [V]	41.7	41.0
Max. power current (Imp) [A]	1.10	1.09
Open circuit voltage (Voc) [V]	49.0	48.4
Short circuit current (Isc) [A]	1.17	1.17

Note: Low irradiance: Air mass 1.5 spectrum, Irradiance = 200W/m², cell temperature = 25°C

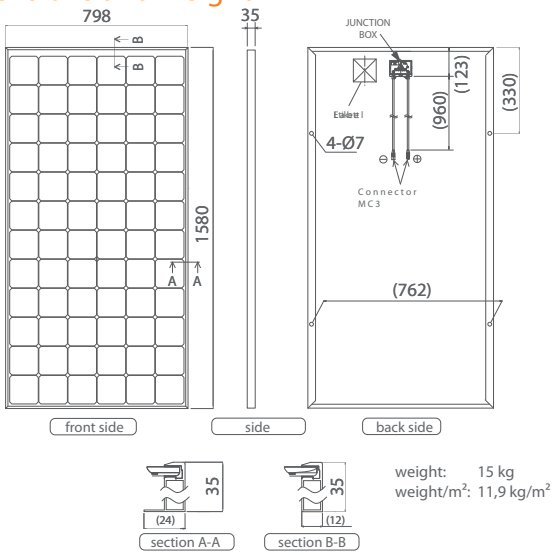
Dependence on irradiance



Reference data for model HIT-N240SE10
(Cell temperature: 25°C)

Dimensions and weight

unit: mm



weight: 15 kg
weight/m²: 11,9 kg/m²

Guarantee

Power output: 10 years (90% of Pmin), 25 years (80% of Pmin)
Product workmanship: 10 years
(Based on guarantee document)

Materials

Cell material: 5 inch HIT cells
Glass material: AR coated tempered glass
Frame materials: Black anodized aluminium
Connectors type: MC3

Certificates

- Quality tested, IEC 61215
- Safety tested, IEC 61730
- Periodic inspection

Electrical Protection Class II

- Ammonia resistance tested
- Salt mist corrosion tested
- Periodic inspection

APPROVED PRODUCT

Certificate No. MCS PV0034
Photovoltaic System

Member of

PV CYCLE

Please consult your local dealer for more information.

⚠ CAUTION! Please read the installation manual carefully before using the products.

Due to our policy of continual improvement the products covered by this brochure may be changed without notice.

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08/11