HIT® photovoltaic module

EN

HIT-N235SE10
HIT-N230SE10
HIT-N225SE10

R&D technology adaptation

Reducing carrier recombination loss
-Preserving as much of the generated electricity as possible

-Realizing even higher voltage

Anti-reflection glass

Reduction of optical loss
-Enabling as much incoming sunlight as possible to reach the electrical generating layer (crystalline silicon)
-Realizing even higher current

New tab design

Reducing resistance loss
-Extracting as much of the generated electricity as possible

-Realizing even higher fill factor

18.6%

HIT cell technology

The SANYO HIT(Heterojunction with Intrinsic Thin layer) solar cell is made of a thin mono crystalline 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

More Clean Energy
HIT can generate more clean Energy than other conventional crystalline solar cells.

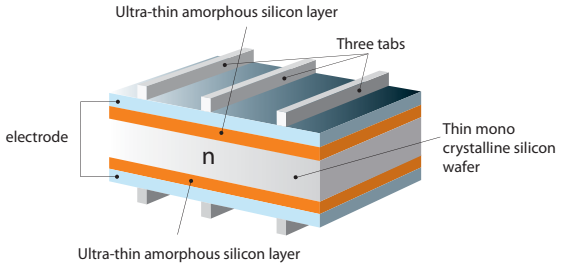
Special Features

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

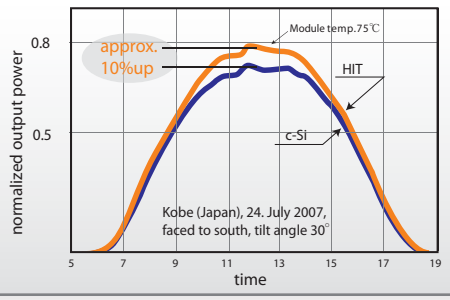
High performance at high temperatures

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
HIT-N235SE10	21.1%	18.6%
HIT-N230SE10	20.7%	18.2%
HIT-N225SE10	20.2%	17.8%

HIT® Photovoltaic Module

Electrical and Mechanical Characteristics

HIT-N235SE10, HIT-N230SE10, HIT-N225SE10

EN

Electrical data (at STC)

	Models HIT-NxxxSE10		
	235	230	225
Maximum power (Pmax) [W]	235	230	225
Max. power voltage (Vmp) [V]	43.0	42.3	41.6
Max. power current (Imp) [A]	5.48	5.45	5.42
Open circuit voltage (Voc) [V]	51.8	51.2	50.6
Short circuit current (Isc) [A]	5.84	5.83	5.83
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

Temperature charcteristics	235	230	225
Temperature (NOCT) [°C]	44.0	44.0	44.0
Temperature coefficient of Pmax [%/°C]	-0.30	-0.30	-0.30
Temperature coefficient of Voc [V/°C]	-0.130	-0.128	-0.127
Temperature coefficient of Isc [mA/°C]	1.75	1.75	1.75

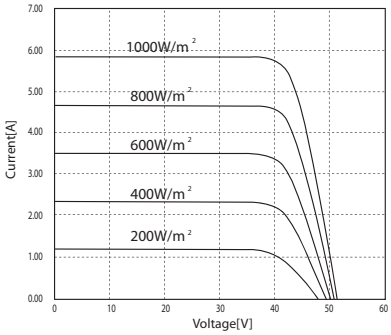
At NOCT	235	230	225
Maximum power (Pmax) [W]	178	174.3	170.1
Max. power voltage (Vmp) [V]	40.5	39.9	39.2
Max. power current (Imp) [A]	4.41	4.38	4.34
Open circuit voltage (Voc) [V]	48.9	48.3	47.7
Short circuit current (Isc) [A]	4.70	4.70	4.70

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	235	230	225
Maximum power (Pmax) [W]	44.9	43.8	42.9
Max. power voltage (Vmp) [V]	41.0	40.6	40.1
Max. power current (Imp) [A]	1.09	1.08	1.07
Open circuit voltage (Voc) [V]	48.4	47.8	47.2
Short circuit current (Isc) [A]	1.17	1.17	1.17

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

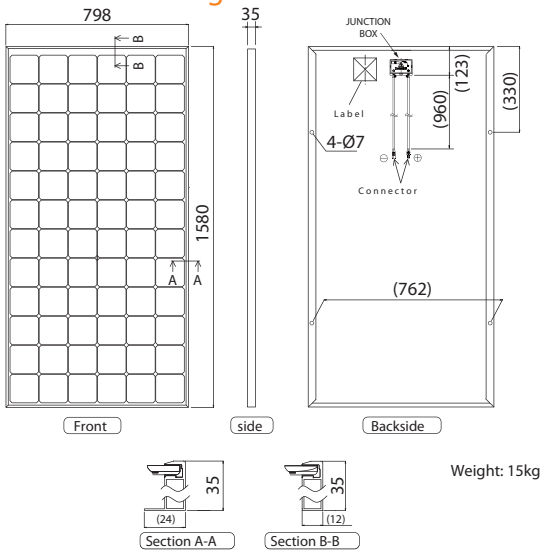
Dependence on irradiance



Reference data for model HIT-N235SE10
(Cell temperature: 25°C)

Dimensions and weight

unit: mm



Weight: 15kg

Warranty

Power output: 10 years (90% of Pmin) 20 years (80% of Pmin)
Product workmanship: 5 years
(Based on contract terms)

Materials

Cell material: 5 inches HIT cells
Glass materiial: AR coated tempered glass
Frame materials: Black anodized aluminium

Certificates

www.tuv.com TÜVRheinland ID: 0000023431
- Safety tested, IEC 61730
- Periodic Inspection

IEC 61730
IEC 61215

Electrical Protection Class II

CE

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.

SANYO Component Europe GmbH
Solar Division
Stahlgruberring 4
81829 Munich, Germany
Tel.+49-(0)89-460095-0
Fax.+49-(0)89-460095-170
http://www.sanyo-solar.eu
email: info.solar@sanyo-solar.eu

SANYO

SANYO Electric Co.,Ltd.
Solar Division
http://www.sanyo.com/solar/

08/10