

HIT PHOTOVOLTAIC MODULE

HIP-190N1-BO-01

The SANYO HIT (**H**eterojunction with **I**ntrinsic **T**hin 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.



Benefit in Terms of Performance

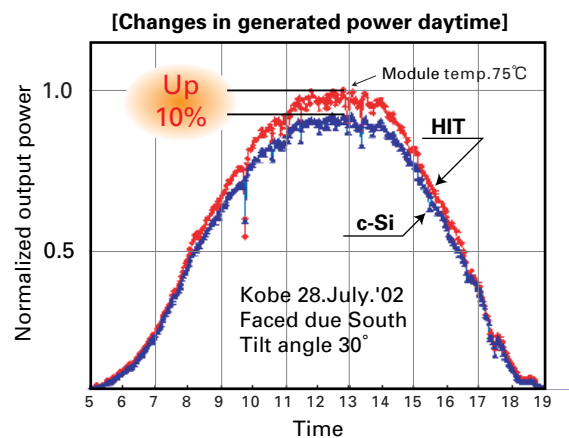
High efficiency cell

Model	Cell Efficiency	Module Efficiency
HIP-190N1-BO-01	18.6%	16.2%

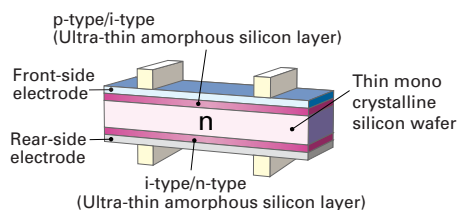
The HIT cell and module have very high conversion efficiency in mass production.

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



Development of HIT solar cell was supported in part by the New Energy and Industrial Technology Development Organization (NEDO).

Environmental 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.

Electrical and Mechanical Characteristics

HIP-190N1-BO-01

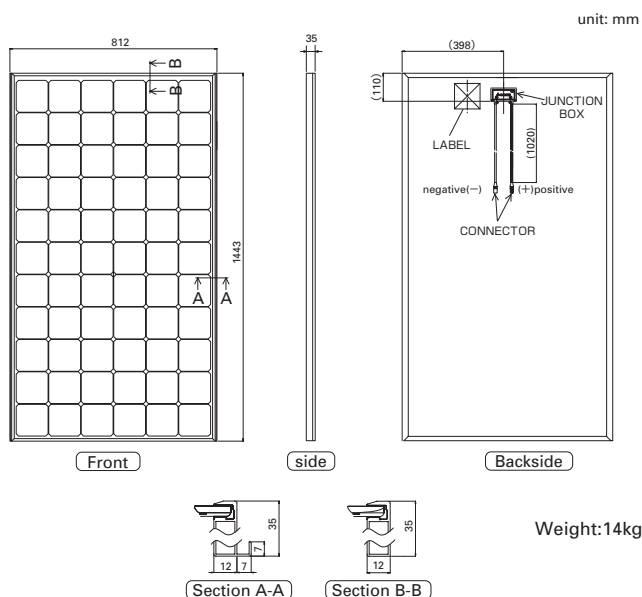
Models HIP-190N1-BO-01

Electrical data		190
Maximum power (Pmax)	[W]	190
Max. power voltage (Vmp)	[V]	37.6
Max. power current (Imp)	[A]	5.05
Open circuit voltage (Voc)	[V]	46.4
Short circuit current (Isc)	[A]	5.57
Warranted minimum power (Pmin)	[W]	180.5
Output power tolerance	[%]	+10/-5
Maximum system voltage	[V]	600
Temperature coefficient of Pmax	[%/°C]	-0.30
Voc	[V/°C]	- 0.116
Isc	[mA/°C]	1.67

Note1: Standard Test Conditions: Air mass 1.5, Irradiance = 1000W/m², Cell temperature = 25°C

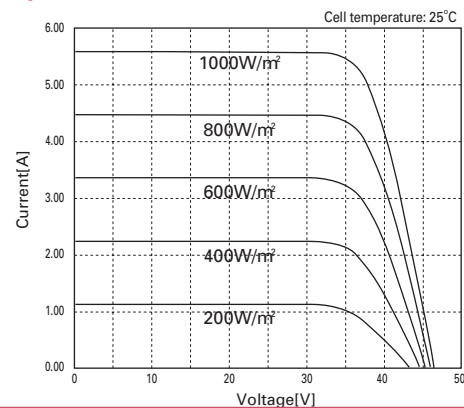
Note2: The values in the above table are nominal

Dimensions and weight



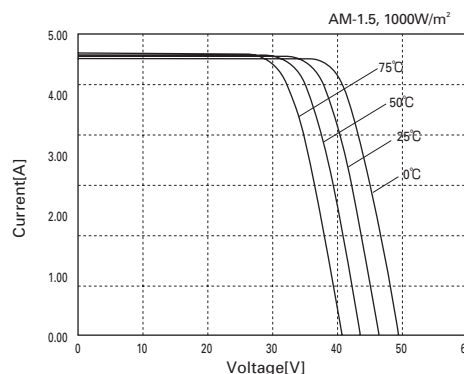
Reference data for model HIP-190N1-BO-01

Dependence on irradiance



Reference data for model HIP-190N1-BO-01

Dependence on temperature



Please consult your local dealer for more information.

Warranty

Power output: 20 years (80% of minimum output power)

Product workmanship: 2 years

(Based on contract)

Certificate Number: PV05-53103-1004

An above number is a certification number by JET.

JET: Japan Electrical Safety & Environment Technology Laboratories

CAUTION! Please read the operating instructions 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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SANYO

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