

HIT photovoltaic module

HIP-230HDE1
HIP-225HDE1
HIP-220HDE1

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.



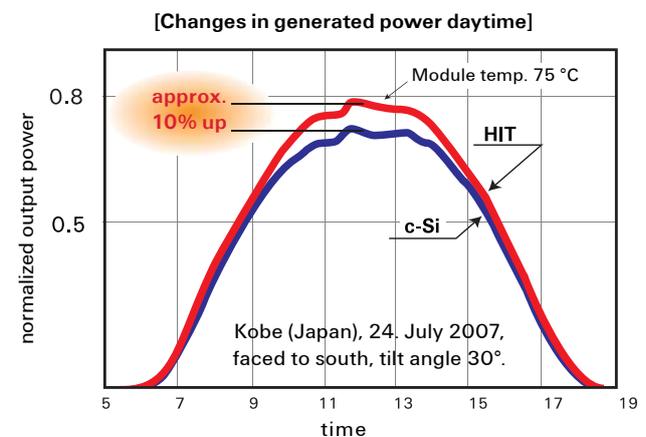
Benefit in Terms of Performance

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

Model	Cell Efficiency	Module Efficiency
HIP-230HDE1	19.2%	16.6%
HIP-225HDE1	18.8%	16.2%
HIP-220HDE1	18.3%	15.9%

High performance at high temperatures

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



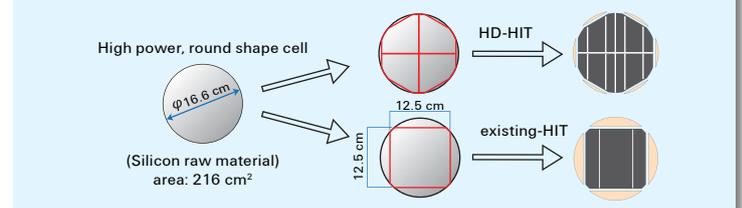
Environmentally-Friendly Solar Cell

More Clean Energy

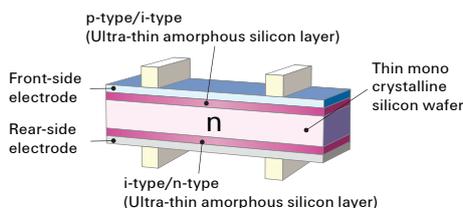
HIT can generate more clean Energy than other conventional crystalline solar cells.

A module that uses silicon resources effectively

The newly developed "Honeycomb Design" HD cell allows the maximum number of round-type, high-power cells to be arrayed in a single module.



HIT Solar Cell Structure

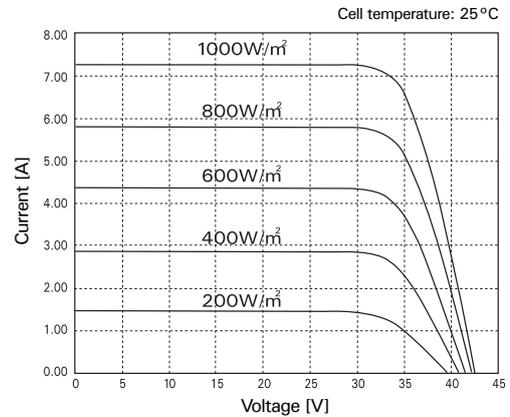


Development of HIT solar cell was supported in part by the New Energy and Industrial Technology Development Organization (NEDO).

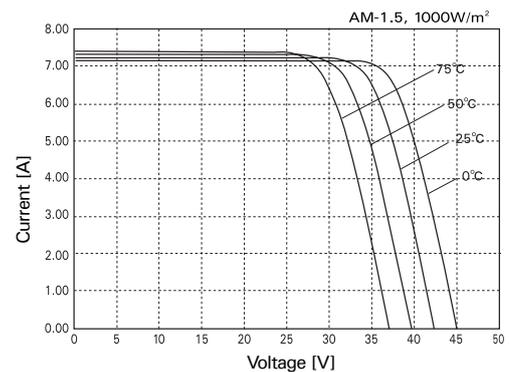
Models HIP-xxxHDE1			
Electrical data	230	225	220
Maximum power (Pmax) [W]	230	225	220
Max. power voltage (Vpm) [V]	34.3	33.9	33.5
Max. power current (Ipm) [A]	6.71	6.64	6.57
Open circuit voltage (Voc) [V]	42.3	41.8	41.4
Short circuit current (Isc) [A]	7.22	7.14	7.07
Warranted min. power (Pmin) [W]	218.5	213.8	209.0
Maximum over current rating [A]	15		
Output power tolerance [%]	+ 10/-5		
Max. system voltage [Vdc]	1000		
Temperature coeff. of Pmax [%/°C]	-0.3		
Temperature coeff. of Voc [V/°C]	-0.106	-0.105	-0.104
Temperature coeff. of Isc [mA/°C]	2.17	2.14	2.12
Note 1: Standard test conditions: Air mass 1.5, Irradiance = 1000 W/m ² , Cell temperature = 25 °C.			
Note 2: The values in the above table are nominal.			

Reference data for model HIP-230HDE1

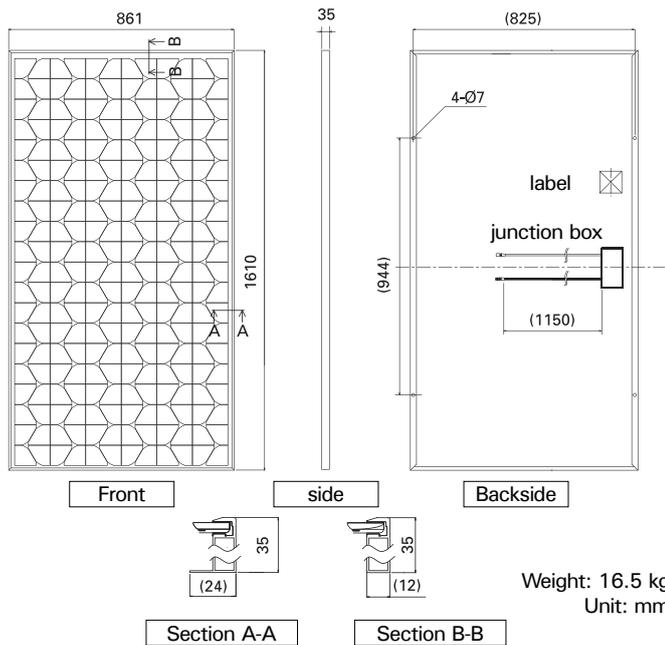
Dependence on irradiance



Dependence on temperature



Dimensions and weight



Certificates

IEC 61730 IEC 61215



- Qualified, IEC 61215
- Safety tested, IEC 61730
- Periodic Inspection



Electrical Protection Class II

Please consult your local dealer for more information.

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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