

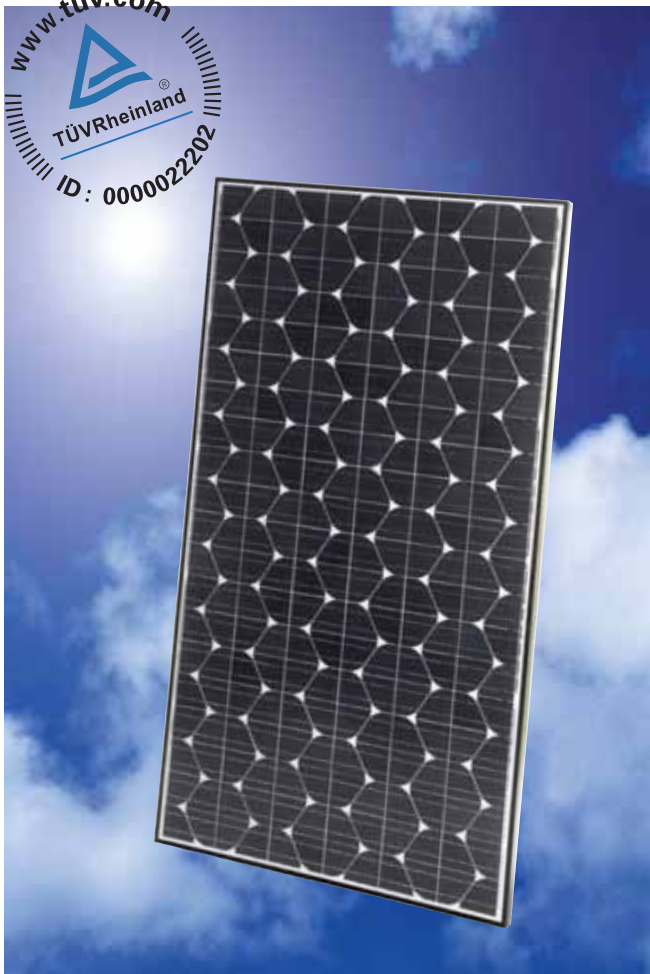
HIT photovoltaic module

HIP-225HDE1

HIP-220HDE1

HIP-215HDE1

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.



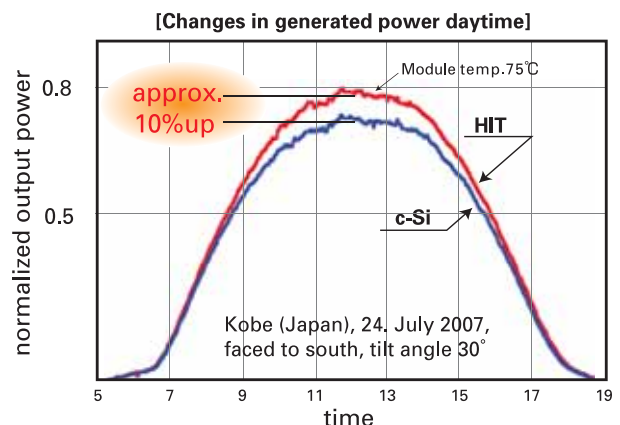
Benefit in Terms of Performance

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

Model	Cell Efficiency	Module Efficiency
HIP-225HDE1	18.8%	16.2%
HIP-220HDE1	18.3%	15.9%
HIP-215HDE1	17.9%	15.5%

High performance at high temperatures

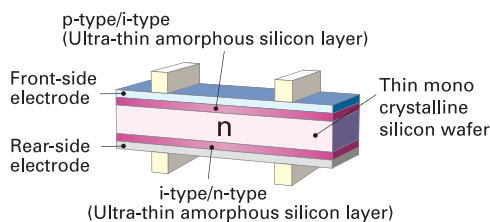
Even at high temperatures, the HIT solar cell can maintain higher efficiency than a conventional crystalline silicon solar cell.



Environmentally-Friendly Solar Cell More Clean Energy

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

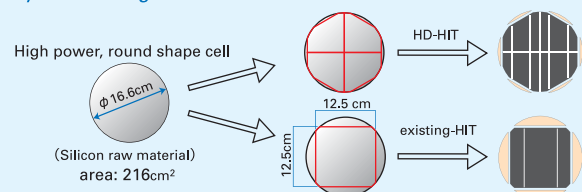
HIT Solar Cell Structure



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

A module which 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.



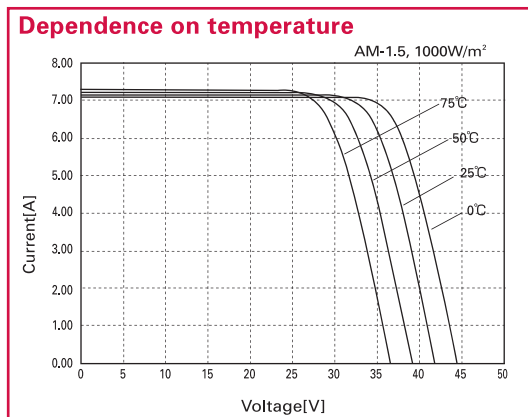
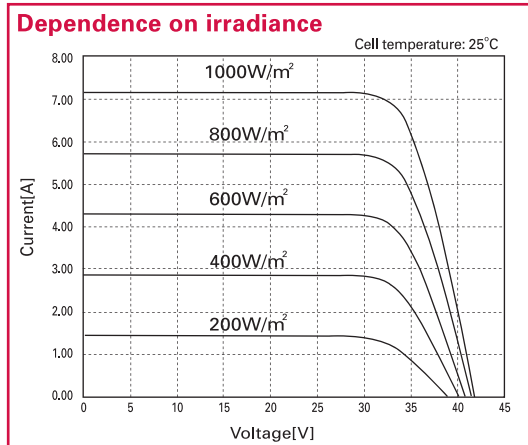
Electrical and Mechanical Characteristics

HIP-225HDE1, HIP-220HDE1, HIP-215HDE1

Models HIP-xxxHDE1				
Electrical data		225	220	215
Maximum power (P _{max})	[W]	225	220	215
Max. power voltage (V _{mp})	[V]	33.9	33.5	33.1
Max. power current (I _{mp})	[A]	6.64	6.57	6.50
Open circuit voltage (V _{oc})	[V]	41.8	41.4	40.9
Short circuit current (I _{sc})	[A]	7.14	7.07	6.99
Warranted minimum power (P _{min})	[W]	213.75	209	204.25
Maximum over current rating	[A]	15		
Output power tolerance	[%]	+10/-5		
Maximum system voltage	[V _{dc}]	1000		
Temperature coefficient of P _{max}	[%/°C]	-0.3		
V _{oc}	[V/°C]	-0.105	-0.104	-0.102
I _{sc}	[mA/°C]	2.14	2.12	2.10

Note 1: Standard Test Conditions: Air mass 1.5, Irradiance = 1000W/m², Cell temperature = 25°C
 Note 2: The values in the above table are nominal

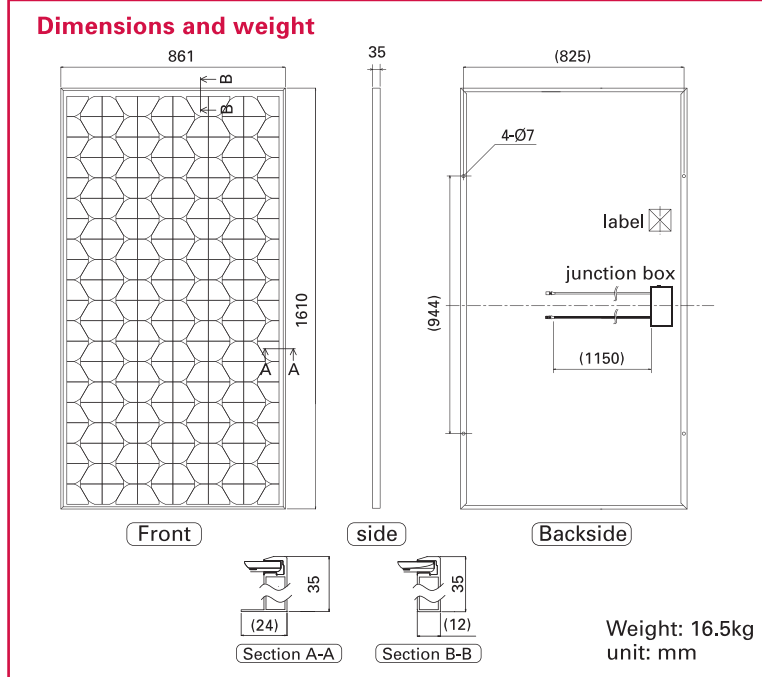
Reference data for model HIP-225HDE1



Certificates



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 terms)

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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