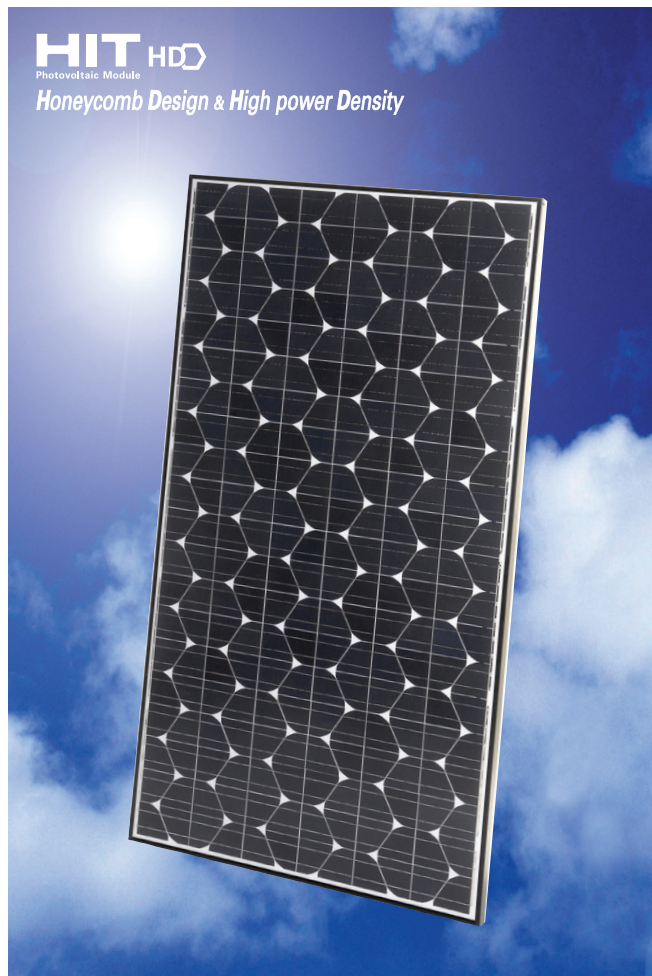


# HIT photovoltaic module

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.



## HIP-225HDE1 HIP-220HDE1 HIP-215HDE1

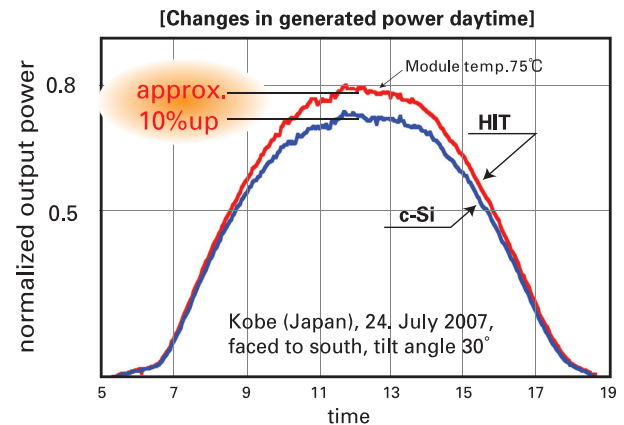
### Benefit in Terms of Performance

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.



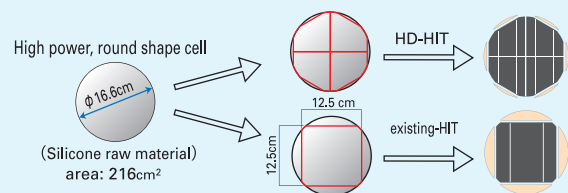
### Environmentally-Friendly Solar Cell

#### More Clean Energy

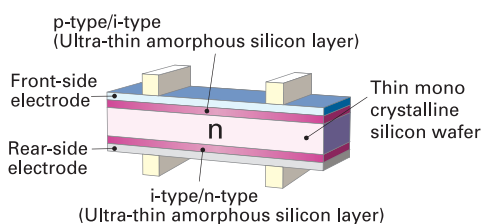
HIT can generate more clean Energy than other conventional crystalline solar cells.

#### 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.



### HIT Solar Cell Structure



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

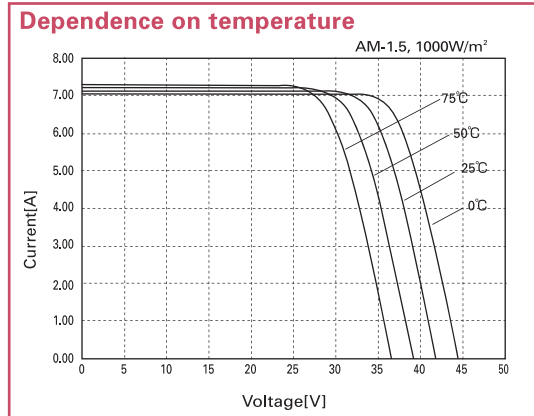
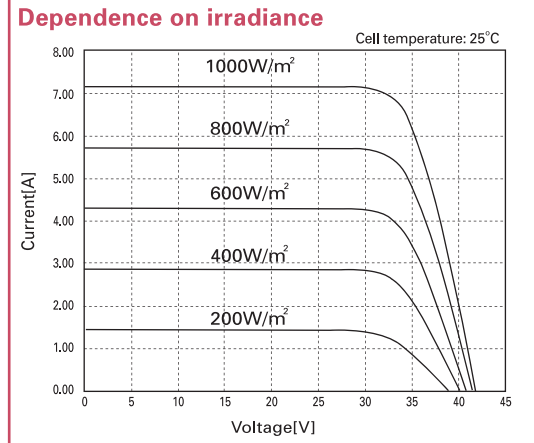


## Electrical and Mechanical Characteristics

Models HIP-xxxHDE1				
Electrical data		225	220	215
Maximum power (Pmax)	[W]	225	220	215
Max. power voltage (Vmp)	[V]	33.9	33.5	33.1
Max. power current (Imp)	[A]	6.64	6.57	6.50
Open circuit voltage (Voc)	[V]	41.8	41.4	40.9
Short circuit current (Isc)	[A]	7.14	7.07	6.99
Warranted minimum power (Pmin)	[W]	213.75	209	204.25
Output power tolerance	[%]	+10/-5		
Maximum system voltage	[Vdc]	1000		
Temperature coefficient of Pmax	[%/°C]	-0.3		
Voc	[V/°C]	-0.105	-0.104	-0.102
Isc	[mA/°C]	2.14	2.12	2.10

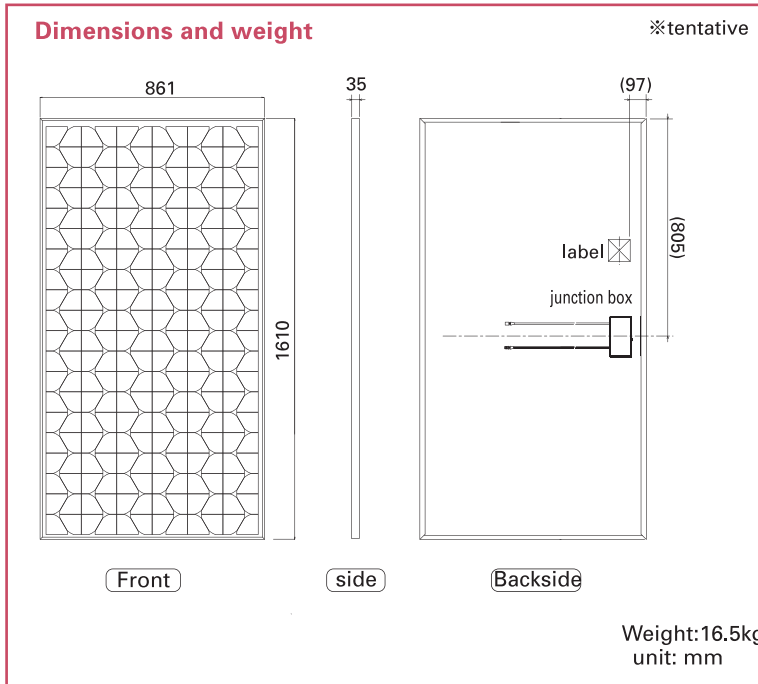
Note1: Standard Test Conditions: Air mass 1.5, Irradiance = 1000W/m<sup>2</sup>, Cell temperature = 25°C  
Note2: The values in the above table are nominal

### Reference data for model HIP-225HDE1



### Certificates

Under process of certificate IEC61730



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### Warranty

Power output: 20 years (80% of minimum output power)  
Product workmanship: 2 years  
(Based on contract)

**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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