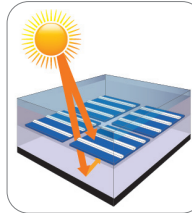


Water drainage frame

- Rain water is drained off the module surface.
- This avoids not only water accumulation, but also water stains after drying.
- Even in low-angle installations, water drainage corners keep the module clean.

Power from both sides

- HIT cells generate solar electricity simultaneously on the front and on the back side.
- This additional amount of light is combined with the light taken up by the front side of the module.

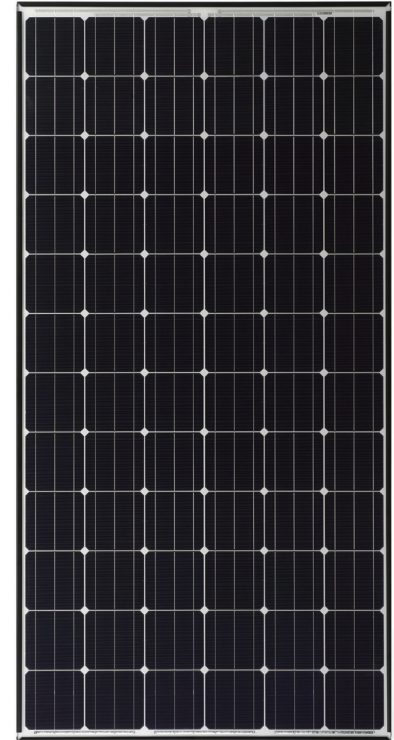


Vertically integrated factory

- Efficient production flow improves product quality as entire process from wafer to cell is done at the same location.
- No risk of damage of individual components during transportation between factories.

19.4%*
194 W/m²

*VBHN245SJ25



Cell technology

Our solar cell is made of a thin monocrystalline silicon wafer surrounded by ultra-thin amorphous silicon layers. This product offers the industry's leading performance and value, using state-of-the-art manufacturing techniques.

Quality

Panasonic is truly committed to quality since it began developing and manufacturing solar PV technology in 1975. Our long track record is supported by our claim-rate of less than 0.005% failure rate after more than 10 years experience in Europe (as of May 2017)

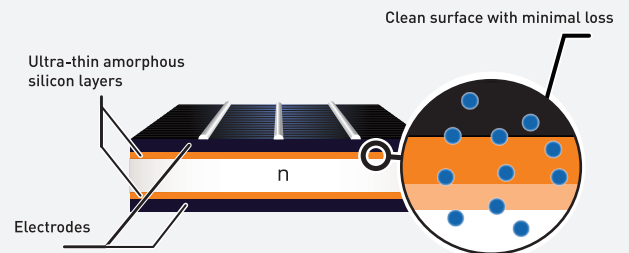
Special features

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

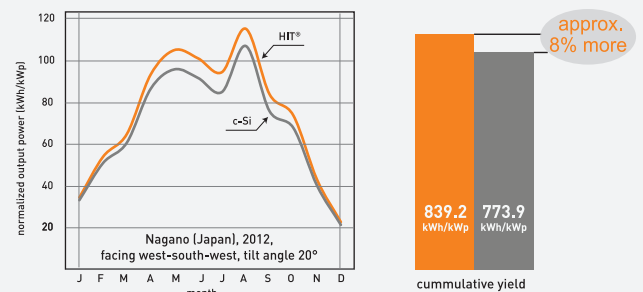
High performance at high temperatures

With its very low temperature coefficient of only -0.258 %/°C, our solar cell can maintain a higher efficiency than a conventional crystalline silicon solar cell, even at high temperatures.

Solar cell structure



Yield comparison



HIT™
Photovoltaic Module

"HIT" is a trademark of Panasonic Group.

Model	Cell efficiency	Module efficiency	Output/m ²
VBHN245SJ25	22.0%	19.4%	194 W/m ²
VBHN240SJ25	21.6%	19.0%	190 W/m ²

Electrical data (at STC)

	VBHN245SJ25	VBHN240SJ25
Max. power (Pmax) [W]	245	240
Max. power voltage (Vmp) [V]	44.3	43.6
Max. power current (Imp) [A]	5.54	5.51
Open circuit voltage (Voc) [V]	53.0	52.4
Short circuit current (Isc) [A]	5.86	5.85
Max. over current rating [A]	15	
Production tolerance power [%]	+10/0*	
Max. system voltage [V]	1000	

Note: Standard Test Conditions: Air mass 1.5; Irradiance = 1000W/m²; cell temp. 25°C
*Each panel output is measured by Panasonic at the time of production.

Temperature characteristics

Temperature (NOCT) [°C]	44.0	
Temp. coefficient of Pmax [%/°C]	-0.258	
Temp. coefficient of Voc [V/°C]	-0.125	-0.123
Temp. coefficient of Isc [mA/°C]	3.22	3.22

At NOCT (Normal Operating Conditions)

Max. power (Pmax) [W]	187.3	183.9
Max. power voltage (Vmp) [V]	42.7	42.1
Max. power current (Imp) [A]	4.46	4.44
Open circuit voltage (Voc) [V]	50.2	49.6
Short circuit current (Isc) [A]	4.74	4.73

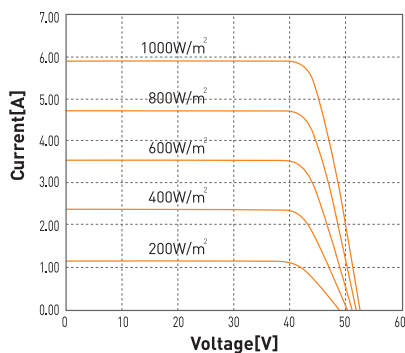
Note: Nominal Operating Cell Temp.: Air mass 1.5; Irradiance = 800W/m²;
Air temperature 20°C; wind speed 1 m/s

At low irradiance (20%)

Max. power (Pmax) [W]	46.8	45.9
Max. power voltage (Vmp) [V]	42.7	42.2
Max. power current (Imp) [A]	1.10	1.09
Open circuit voltage (Voc) [V]	49.6	49.0
Short circuit current (Isc) [A]	1.17	1.17

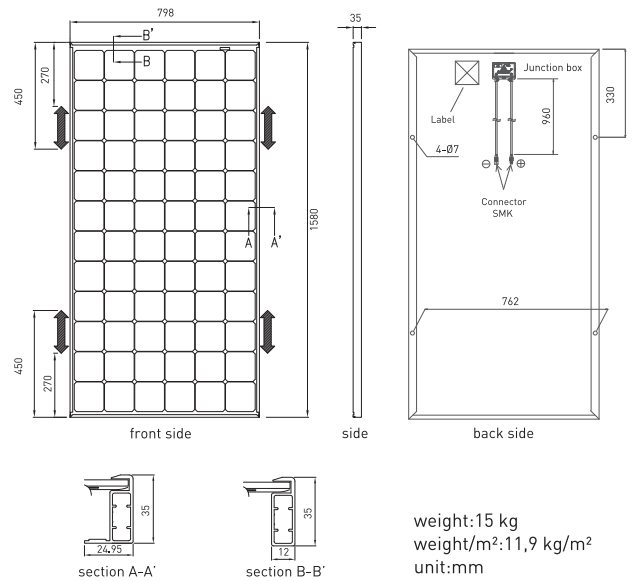
Note: Low irradiance: Air mass 1.5; Irradiance = 200W/m²; cell temp. = 25°C

Dependence on irradiance



Reference data for model VBHN245SJ25

Dimensions and weight



Warranty

Power output:	10 years (90% of Pmin) 25 years (80% of Pmin)
Product workmanship:	10 years (based on warranty document)

Materials

Cell material:	5 inch HIT cells
Glass material:	AR coated tempered glass
Frame materials:	Black anodized aluminium
Connectors type:	SMK

Certificates



IEC61215
IEC61730-1
IEC61730-2



IEC61701
salt mist corrosion
Severity 6



manufactured by SANYO Electric Co., Ltd.

CAUTION! Please read the installation manual carefully before using the products.

Panasonic Corporation Eco Solutions Company

<http://panasonic.net/ecosolutions/solar>