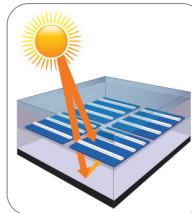


Water drainage frame

- 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.

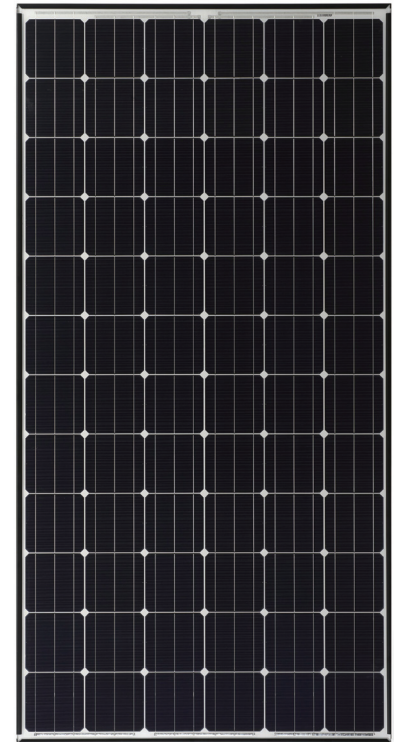


Vertically integrated factory

- 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)

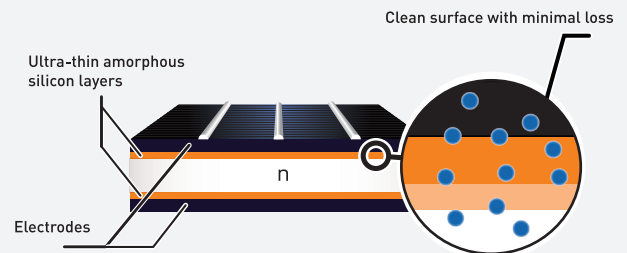
Special features

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.

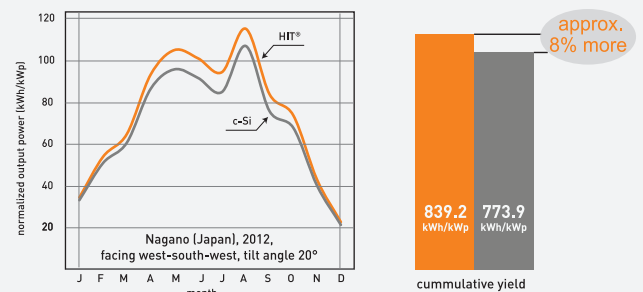
High performance at high temperatures

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 |

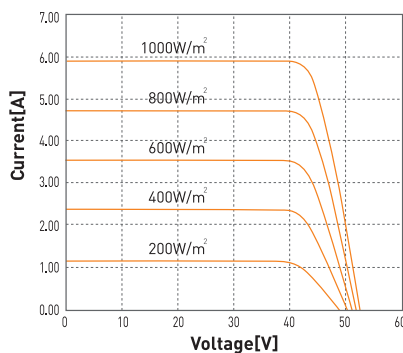
Note: Nominal Operating Cell Temp.: Air mass 1.5; Irradiance = 800W/m²;
 Air temperature 20°C; wind speed 1 m/s

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 |

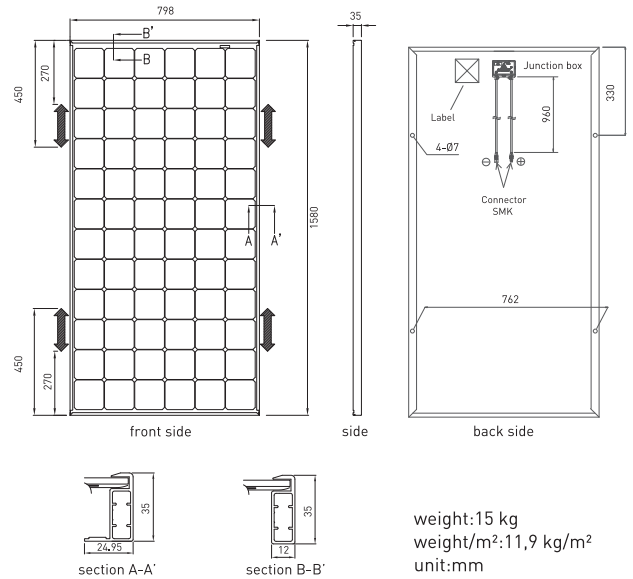
Note: Low irradiance: Air mass 1.5; Irradiance = 200W/m²; cell temp. = 25°C

Dependence on irradiance



Reference data for model VBHN245SJ25

Dimensions and weight



weight: 15 kg
 weight/m²: 11.9 kg/m²
 unit: mm

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>