Panasonic

# N 330
# N 325

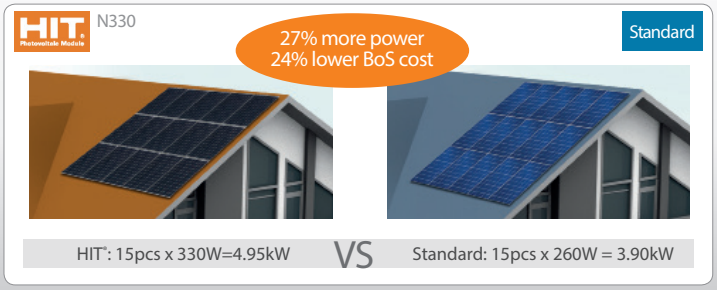
HIT® Photovoltaic Module

## Photovoltaic module HIT®
## VBHN330SJ47/ VBHN325SJ47

EN

### 19.7% module efficiency

Enables reaching a higher output and lower specific installation and balance-of-system costs than with the same number of standard 60-cell modules.

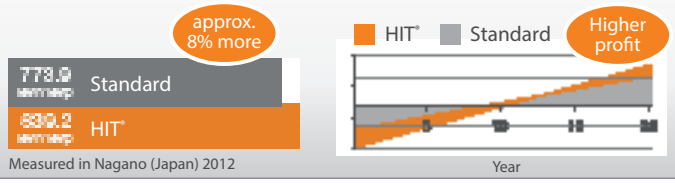



### 100% Panasonic, 100% HIT®

Proudly featuring Panasonic's original invention, the heterojunction solar cell. With over 1 billion cells produced commercially over 18 years, 25 years after the breakthrough in the development and looking back to over 40 years of experience in solar, Panasonic really offers you a 25-year guarantee you can trust.


### More energy, higher profit!

Helping you reach a higher final profit with your PV system!





330W/325W

High Efficiency + High Performance at High Temperatures = High Power Generation

## QUALITY PROVEN 4 WAYS

### 1 Guaranteed by Panasonic

- IEC and over 20 Panasonic internal tests
- Vertically integrated own manufacturing (wafer, cell and module)

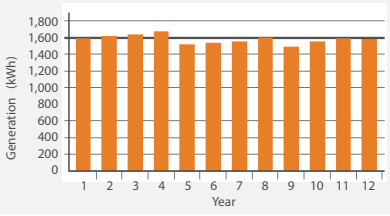
### 2 Record low claim rate

Less than 0.0035% failure rate after more than 10 years experience in Europe (as of January 2017)

### 3 Less degradation on the field

12 years actual data prove a reliable and stable performance.

| | |
|---|---|
| Installation: | March 2004 |
| Location: | Gloucestershire, UK |
| Model: | HIP-180BE |
| System size: | 1.80 kWp |
| Tilt: | 40 deg. |
| Direction: | South-West |




### 4 3rd party verified

- Lifecycle testing (Long-Term-Sequential-Test) by TÜV Rheinland (tested on VBHN240SE10)
- PID-free (tested by Fraunhofer Institute)



Panasonic Eco Solutions Europe
Panasonic Electric Works Europe AG
www.eu-solar.panasonic.net

# Electrical and Mechanical Characteristics
# N330/N325

EN

## Electrical data (at STC)

| | VBHN330SJ47 | VBHN325SJ47 |
|---|---|---|
| Max. power (Pmax) [W] | 330 | 325 |
| Max. power voltage (Vmp) [V] | 58.0 | 57,6 |
| Max. power current (Imp) [A] | 5.70 | 5,65 |
| Open circuit voltage (Voc) [V] | 69.7 | 69,6 |
| Short circuit current (Isc) [A] | 6.07 | 6,03 |
| Max. over current rating [A] | 15 | 15 |
| Power tolerance [%] * | +10/-0 | +10/-0 |
| Max. system voltage [V] | 1000 | 1000 |
| Solar panel efficiency [%] | 19.7 | 19,4 |

Note: Standard Test Conditions: Air mass 1.5; Irradiance = 1000W/m²; cell temp. 25°C
* Maximum power at delivery.

### Temperature characteristics

| | | |
|---|---|---|
| Temperature (NOCT) [°C] | 44.0 | 44.0 |
| Temp. coefficient of Pmax [%/°C] | -0.258 | -0.258 |
| Temp. coefficient of Voc [V/°C ] | -0.164 | -0.164 |
| Temp. coefficient of Isc [mA/°C] | 3.34 | 3.32 |

### At NOCT (Normal Operating Conditions)

| | | |
|---|---|---|
| Max. power (Pmax) [W] | 251.9 | 249.3 |
| Max. power voltage (Vmp) [V] | 56.3 | 56.1 |
| Max. power current (Imp) [A] | 4.54 | 4.52 |
| Open circuit voltage (Voc) [V] | 65.8 | 65.9 |
| Short circuit current (Isc) [A] | 4.89 | 4.88 |

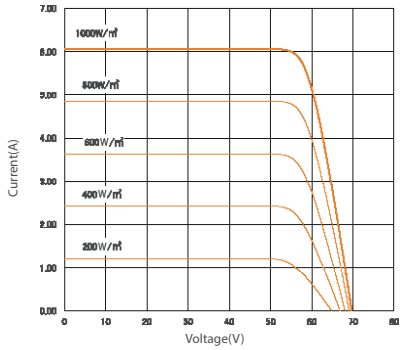
Note: Normal Operating Cell Temp.: Air mass 1.5; Irradiance = 800W/m²;
Air temperature 20°C; wind speed 1 m/s

### At low irradiance (20%)

| | | |
|---|---|---|
| Max. power (Pmax) [W] | 63.5 | 62.3 |
| Max. power voltage (Vmp) [V] | 57.0 | 56.4 |
| Max. power current (Imp) [A] | 1.12 | 1.11 |
| Open circuit voltage (Voc) [V] | 65.6 | 65.3 |
| Short circuit current (Isc) [A] | 1.22 | 1.21 |

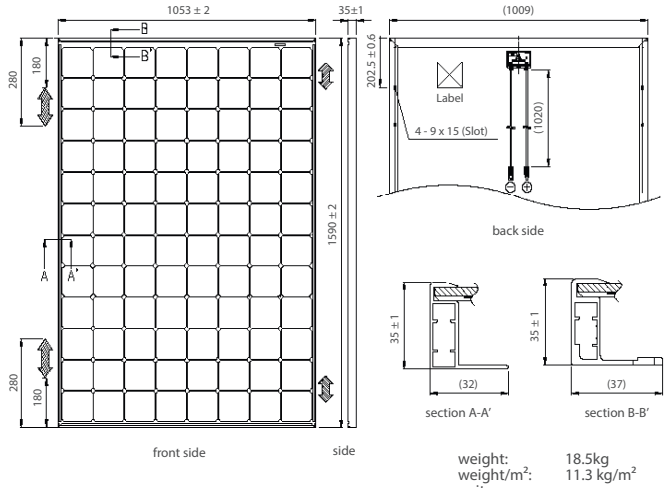
Note: Low irradiance: Air mass 1.5; Irradiance = 200W/m²; cell temp. = 25°C

## Dependence on irradiance




Reference data for model
VBHN330SJ47
(Cell temperature: 25°C)

## Dimensions and weight




| | |
|---|---|
| weight: | 18.5kg |
| weight/m²: | 11.3 kg/m² |
| unit: | mm |
| snow and wind load: | 2400 Pa |

## Guarantee

| | |
|---|---|
| Power output: | 10 years (90% of Pmin)<br>25 years (80% of Pmin) |
| Product workmanship: | 25 years (registration necessary on www.eu-solar.panasonic.net, otherwise 15 years apply based on guarantee document) |

## Materials

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

## Certificates

**CLASS UNO**
By TÜV Rheinland
UNI 8457
UNI 9174
UNI 9177

IEC61215
IEC61730-1
IEC61730-2

Electrical Protectio n
Class II

Please consult your local dealer for more information

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

Used electrical and electronic products must not be mixed with general household waste. For proper treatment, recovery and recycling of old products, please take them to applicable collection points in accordance with your national legislation.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