# **Panasonic**

## Photovoltaic module HIT<sup>™</sup> VBHN330SJ47 / VBHN325SJ47

### 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



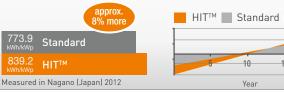
### 100% Panasonic, 100% HIT™

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.

	solar business since 1975								
				heterojunction technology since 1990					
				HIT <sup>®</sup> mass-production since 1997			e 1997		
19	75								

### More energy, higher profit!

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



### **QUALITY PROVEN 4 WAYS**

#### Guaranteed by Panasonic IEC and over 20 Panasonic internal tests

 Vertically integrated own manufacturing (wafer, cell and module)



### Record low claim rate

Less than 0.005% failure rate after more than 10 years experience in Europe (as of September 2015)

HIT<sup>™</sup> is a registered trademark of Panasonic Group.

### www.eu-solar.panasonic.net

### Less degradation on the field

11 years actual data prove a reliable and stable performance.

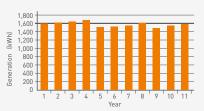
High Efficiency

Unique

water drainage

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

4



330W / 325W

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• Lifecycle testing (Long-Term-Sequential-Test) by TÜV Rheinland (tested on VBHN240SE10)

High Performance

at High Temperatures

• PID-free (tested by Fraunhofer Institute)





Electrical data (at STC)				
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			
Power tolerance [%] *	+10/-0			
Max. system voltage [V]	1000			
Solar Panel efficiency [%]	19.7	19.4		
Nete Standard Test Conditions Air mass 1 E Invedience 1000W/m <sup>2</sup> cell terms 2E8C				

Note: Standard Test Conditions: Air mass 1.5; Irradiance = 1000W/m²; cell temp. 25°C \* Maximum power at delivery. For guarantee conditions, please check our guarantee document.

Temperature characteristics				
Temperature (NOCT) [°C]	44.0	44.0		
Temp. coefficient of Pmax [%/°C]	-0.29	-0.29		
Temp. coefficient of Voc [V/°C ]	-0.174	-0.174		
Temp. coefficient of lsc [mA/°C]	1.82	1.81		

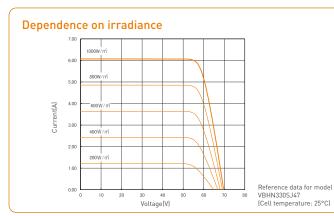
#### At NOCT (Normal Operating Conditions) (Tentative)

Max. power (Pmax) [W]	247.2	243.5
Max. power voltage (Vmp) [V]	54.2	53.8
Max. power current (Imp) [A]	4.58	4.54
Open circuit voltage (Voc) [V]	65.1	65.0
Short circuit current (Isc) [A]	4.91	4.88

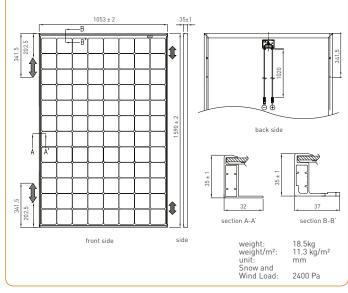
Note: Normal Operating Cell Temp.: Air mass 1.5; Irradiance = 800W/m²; Air temperature 20°C; wind speed 1 m/s

#### At low irradiance (20%) (Tentative)

Max. power (Pmax) [W]	63.5	62.5			
Max. power voltage (Vmp) [V]	56.2	55.8			
Max. power current (Imp) [A]	1.13	1.12			
Open circuit voltage (Voc) [V]	66.0	65.9			
Short circuit current (Isc) [A]	1.21	1.20			
Note: Low irradiance: Air mass 1.5; Irradiance = 200W/m²; cell temp. = 25°C					



#### **Dimensions and weight**



#### Guarantee

Power output: 10 years (90% of Pmin), 25 years (80% of Pmin) Product workmanship: 15 years (based on guarantee document)

#### Materials

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

#### Certificates (in preparation)





RoHS

Please consult your local dealer for more information

IEC61215

IEC61730-1 IEC61730-2

#### A 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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