# Photovoltaic module HIT<sup>™</sup> VBHN330SJ47/VBHN325SJ47/VBHN320SJ47





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



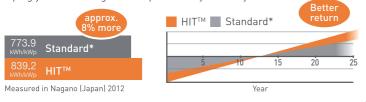
# 100% Panasonic design

Proudly featuring Panasonic's original invention, the heterojunction solar cell. With over 1 billion cells produced commercially over 20 years, 27 years after the breakthrough in the development and looking back to over 42 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!



Standard\* : Conventional crystalline module with Pmax 260W



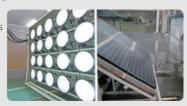
# 330W / 325W / 320W



## **QUALITY PROVEN 4 WAYS**

# Panasonic Quality

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



Less degradation on the field

14 years actual data prove a reliable and stable performance.

Installation: July, 2002 System size: 3.34kW Location: Hyogo pre., Japan Model: HIP-G751B1 [167W] Direction: South



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#### Record low claim rate

Less than 0.005% failure rate after more than 10 years experience in Europe (as of May 2017)

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### 3rd Party verified

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

HIT™ is a trademark of Panasonic Group.



# **Electrical and Mechanical Characteristics**

# VBHN330SJ47/VBHN325SJ47/VBHN320SJ47

Electrical data (at STC)	VBHN330SJ47	VBHN325SJ47	VBHN320SJ47
Max. power (Pmax) [W]	330	325	320
Max. power voltage (Vmp) [V]	58.0	57.6	57.3
Max. power current (Imp) [A]	5.70	5.65	5.59
Open circuit voltage (Voc) [V]	69.7	69.6	69.4
Short circuit current (Isc) [A]	6.07	6.03	5.98
Max. over current rating [A]		15	
Power tolerance [%]	+10/-0 *		
Max. system voltage [V]		1000	
Solar Panel efficiency [%]	19.7	19.4	19.1

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	44.0
Temp. coefficient of Pmax [%/°C]	-0.258	-0.258	-0.258
Temp. coefficient of Voc [V/°C]	-0.164	-0.164	-0.163
Temp. coefficient of lsc [mA/°C]	3.34	3.32	3.29

#### At NOCT (Normal Operating Conditions)

Max. power (Pmax) [W]	253.5	249.3	245.2
Max. power voltage (Vmp) [V]	56.5	56.1	55.7
Max. power current (Imp) [A]	4.56	4.52	4.47
Open circuit voltage (Voc) [V]	66.0	65.9	65.7
Short circuit current (Isc) [A]	4.91	4.88	4.84

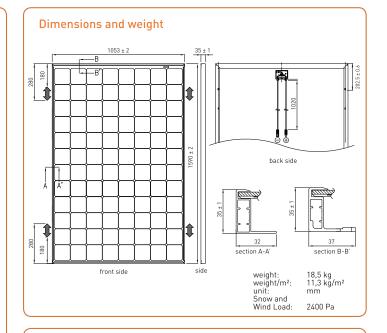
Note: Normal Operating Cell Temp.: Air mass 1.5; Irradiance =  $800W/m^2$ ; Air temperature  $20^{\circ}C$ ; wind speed 1 m/s

#### At low irradiance (20%)

Max. power (Pmax) [W]	63.5	62.3	61.0
Max. power voltage (Vmp) [V]	57.0	56.4	55.9
Max. power current (Imp) [A]	1.12	1.11	1.10
Open circuit voltage (Voc) [V]	65.6	65.3	64.9
Short circuit current (Isc) [A]	1.22	1.21	1.20

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

# Dependence on irradiance | Value | Continue | Continue



#### 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 photovoltaic cells Glass material: AR coated tempered glass Frame materials: Black anodized aluminium

Connectors type: SMK

#### Certificates





IEC61701 salt mist corrosion Severity 6

IEC61215 IEC61730-1 IEC61730-2





Please consult your local dealer for more information

ACAUTION! 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.

# Panasonic Corporation Eco Solutions Company

http://panasonic.net/ecosolutions/solar

