



### 19.7 % module efficiency (N330)

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



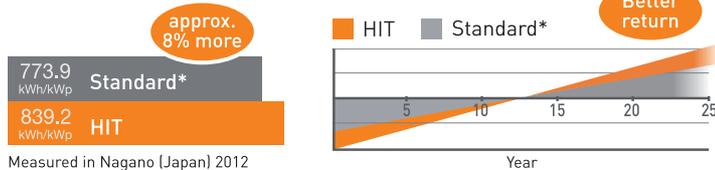
### 100 % Panasonic design

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 43 years of experience in solar, Panasonic really offers you a 25-year guarantee you can trust.

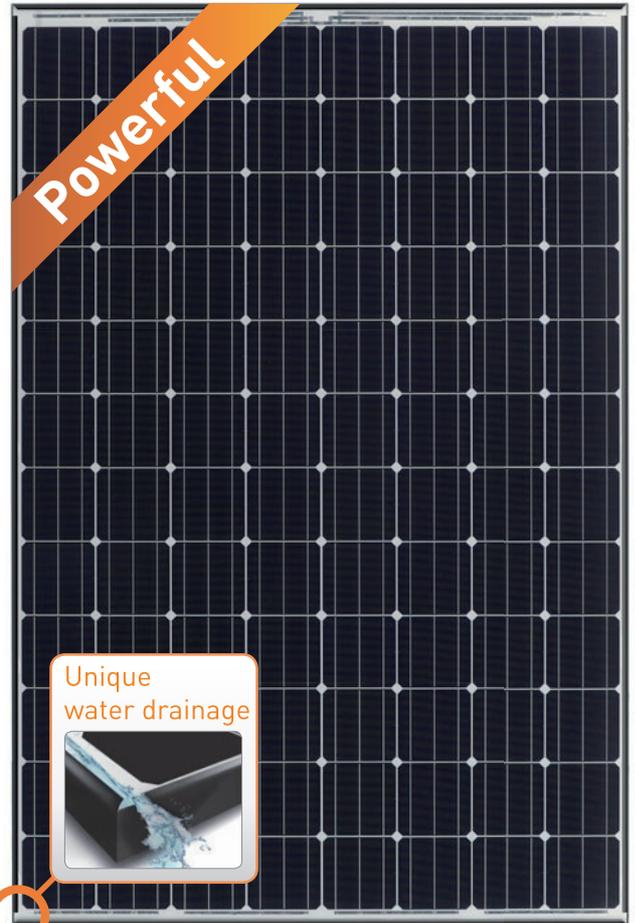


### More energy, higher profit!

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



Standard\* : Conventional crystalline module with Pmax 260W



## 330W / 325W

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

## QUALITY PROVEN 4 WAYS

### 1 Panasonic Quality

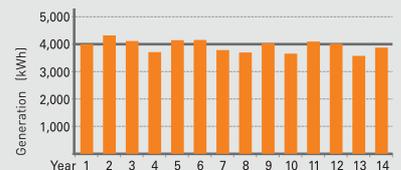
- IEC and over 20 Panasonic internal tests
- Vertically integrated own manufacturing (wafer, cell and module)



### 3 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



### 2 Record low claim rate

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

### 4 3rd Party verified

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

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Electrical data (at STC *1)	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 *2	+10/-0 *2
Max. system voltage [V]	1000	1000
Solar Panel efficiency [%]	19.7	19.4

\*1 STC: Standard Test Conditions: Air mass 1.5; Irradiance = 1000 W/m<sup>2</sup>; cell temp. = 25 °C  
 \*2 Maximum power at delivery. For warranty conditions, please check our warranty document.

### 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]	253.5	249.3
Max. power voltage (Vmp) [V]	56.5	56.1
Max. power current (Imp) [A]	4.56	4.52
Open circuit voltage (Voc) [V]	66.0	65.9
Short circuit current (Isc) [A]	4.91	4.88

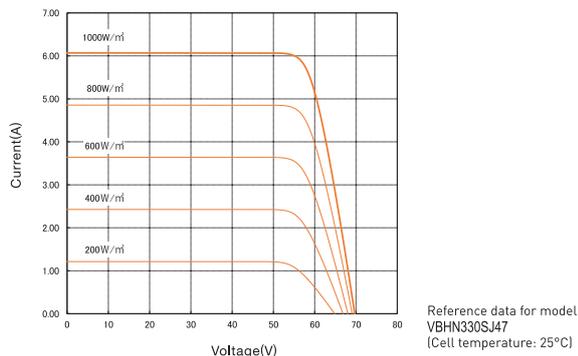
Note: Normal Operating Cell Temp.: Air mass 1.5; Irradiance = 800 W/m<sup>2</sup>; Air temp. = 20 °C; wind speed 1m/s

### At low irradiance (20%)

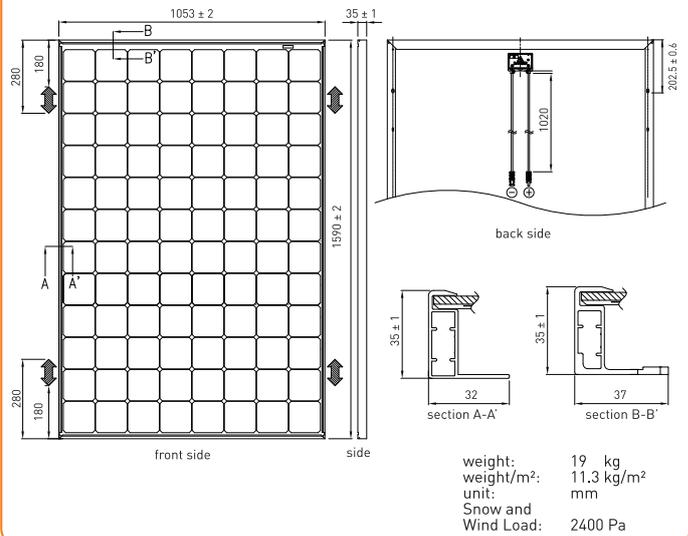
Max. power (Pmax)[W]	63.5	62.3
Max. power voltage (Vmp) [V]	57.0	56.4
Max. power current (Imp) [A]	1.12	1.11
Open circuit voltage (Voc) [V]	65.6	65.3
Short circuit current (Isc) [A]	1.22	1.21

Note: Low irradiance: Air mass 1.5; Irradiance = 200 W/m<sup>2</sup>; cell temp. = 25 °C

### Dependence on irradiance



### Dimensions and Weight



### Warranty

Power output: 25 years linear  
 [1st year 97%, from 2nd year -0.45%/year, in 25th year 86.2% ]  
 [ Measurement Tolerance ±3% ]

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

IEC61215  
 IEC61730-1  
 IEC61730-2



IEC61701  
 salt mist corrosion  
 Severity6

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.

**Panasonic Corporation Life Solutions company**

URL: [panasonic.net/lifesolutions/solar](http://panasonic.net/lifesolutions/solar)

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