

# **Electrical and Mechanical Characteristics** VBHN330SA16, VBHN325SA16

Electrical Specifications		
Model	VBHN330SA16	VBHN325SA16
Rated Power (Pmax) <sup>1</sup>	330W	325W
Maximum Power Voltage (Vpm)	58.0V	57.6V
Maximum Power Current (lpm)	5.70A	5.65A
Open Circuit Voltage (Voc)	69.7V	69.6V
Short Circuit Current (lsc)	6.07A	6.03A
Temperature Coefficient (Pmax)	-0.30%/°C	-0.30%/°C
Temperature Coefficient (Voc)	-0.174V/°C	-0.174V/°C
Temperature Coefficient (lsc)	1.82mA/°C	1.82mA/°C
NOCT	49.2°C	49.2°C
CEC PTC Rating	306.5W	301.7W
Cell Efficiency	22.09%	21.76%
Module Efficiency	19.7%	19.4%
Watts per Ft. <sup>2</sup>	18.3W	18.0W
Maximum System Voltage	600V	600V
Series Fuse Rating	15A	15A
Warranted Tolerance (-/+)	+10%/-0%*	+10%/-0%*



#### Mechanical Specifications

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Model	VBHN330SA16, VBHN325SA16	
Internal Bypass Diodes	4 Bypass Diodes	
Module Area	18.02 Ft. <sup>2</sup> (1.67m <sup>2</sup> )	
Weight	40.81 Lbs. (18.5kg)	
Dimensions LxWxH	62.6x41.5x1.4 in. (1590x1053x35 mm)	
Cable Length +Male/-Female	40.2/40.2 in. (1020/1020 mm)	
Cable Size / Type	No. 12 AWG / PV Cable	
Connector Type <sup>2</sup>	Multi-Contact® Type IV (MC4™)	
Static Wind / Snow Load	50 PSF (2400 Pa)	
Pallet Dimensions LxWxH	63.7x42.2x5.5 in. (1618x1071x140 mm)	
Quantity per Pallet / Pallet Weight	40 pcs. /1719 Lbs. (780 kg)	
Quantity per 40' Container	560 pcs.	
Quantity per 20' Container	240 pcs.	

#### **Operating Conditions & Safety Ratings**

Model	VBHN330SA16, VBHN325SA16
Operating Temperature	-40°F to 185°F (-40°C to 85°C)
Hail Safety Impact Velocity	1" hailstone (25mm) at 52 mph (23m/s)
Safety & Rating Certifications	UL 1703, cUL, CEC
UL 1703 Fire Classification	Type 2
Limited Warranty	15 Years Workmanship, 25 Years Power Output

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. <sup>1</sup>STC: Cell temp. 25°C, AM1.5, 1000W/m<sup>2</sup> <sup>2</sup>Safety tocking clip (PV-SSH4) is not supplied with the module. Note: Specifications and information above may change without notice.



**Panasonic** 

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# **Solar Solutions**



# Panasonic

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. 000W/m

800W./m

. 600Ŵ/m

400₩/m²

. 200W/m²

10

50 60

Voltage (V)

⚠ 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

6.00

5.0

2.00

0.00

your national legislation.

Reference data for model: VBHN330SA16 (Cell temperature: 25°C)







Panasonic a leader in consumer electronics, business solutions and industrial components has been in the solar business for 40 years, providing high efficiency and high guality solar panels HIT<sup>®</sup> for over 17 years. With so many years of experience, Panasonic's corporate goal is to provide durable, efficient and high performance products to its customers.

## Features and Advantages of Panasonic HIT®



#### Leading Edge Technology – Silicone Hetero-Junction (SHJ) Solar Cell

The Panasonic original silicone hetero-junction cell has a unique property which minimizes loss of electrons, and maximizes the performance of the cell increasing its output.

### Original Pyramid Structure

While the flat surface of other panel reflects sunlight, Panasonic's unique pyramid structure helps the cell surface absorb more sunlight which generates more energy.



Cell Surface

Sunlight

#### High Efficiency Performance at High Temperatures

Due to the unique property of amorphous silicon layer, Panasonic HIT® continues to be efficient and perform at its best quality even at high temperatures.





### Unique Water Drainage

Rain water is drained off the panel surface. This avoids not only water accumulation but also water stains after drying. Even in low-angle installations, the water drainage helps to keep the panel clean.

#### Panasonic Quality

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

# As a professional installer, why choose Panasonic HIT<sup>®</sup>?



1975 Started R&D for

1975

Panasonic

Solar

Panels

Timeline

amorphous solar cells

1980

World's first

commercialization of amorphous solar cells



1990

Started R&D



crystalline modules

19.7% Module Efficiency Employing 96 cells in the same size footprint, N330 and N325 HIT<sup>®</sup> produce up to 36% more free electricity compared to conventional 60-cell panels. • More solar power output per square foot • Fewer panels to install, faster installations • Ideal for small roof areas • Greater cost savings for homeowners over a 25-year lifecycle 36% нт N330 HIT®: 9,167kWh/year (15pcs x 330W = 4.95kW) VS Standard\*: 6,716kWh/year (15pcs x 260W = 3.90kW) NOTE: Panasonic's simulation in CA, USA \*Conventional crystalline module



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2004 Nishikinohama factory starts production (Osaka, Japar 2013 New lab record for cell efficiency: 24.7% = #1 in the world

1997 Started large-scale production and sales of HIT®

2012 Receives prestigious IEEE award for HIT® Panasonic Energy Malaysia starts production

2014

New lab record for cell efficiency: 75.6% = #1 in the world 22.5% module efficiency is achieved by 72-cell, 270W prototype module in 2015 Accumulated cell production reaches 1 billion units

By installing a solar panel on a customer's home, not only are they making a long-term and high value investment, but you are also providing the best service and delivering high quality products. Panasonic is a renowned brand that will give you a reliable guarantee which you and your customer can trust.

• Experience: Panasonic a leader in consumer electronics, business solutions and industrial components has been in the solar business for 40 years, providing high efficiency and high quality solar panels for 17 years. With so many years of experience, Panasonic's corporate goal is to provide durable, efficient and high performance products to its customers.

• Warranty: Panasonic's product warranty is one of top in the industry by providing up to 15 years in product warranty and up to 25 years of output warranty.

• Reliability: HIT<sup>®</sup> provides many years of reliable operation over the system's entire life cycle.

• Efficiency: HIT<sup>®</sup> is highly efficient and produces more power per square feet than traditional products.