# **Panasonic**

# Photovoltaic module HIT® VBHN295SJ46 / VBHN285SJ46

# Only 1.46 m tall

More power on your roof thanks to best fit in portrait due to shorter module length and less space between module rows on flat roofs.



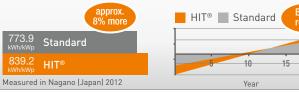
## 100% Panasonic, 100% HIT®

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							
		heteroju	heterojunction technology since 1990				
			HIT <sup>®</sup> mass-production since 1997				
1975							

# More energy, higher profit!

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



# **QUALITY PROVEN 4 WAYS**



 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.

## 3rd Party verified

12 years actual data

prove a reliable and

stable performance.

Location: Glocestershire, UK Model: HIP-180BE System size: 1.80 kWp

Installation: March 2004

Tilt: 40 deg. Direction: South-West

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



# 295W / 285W

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High Performance **High Efficiency** at High Temperatures

Less degradation on the field

Unique

water drainage

1.600 400

> 600 400

(kWh) 1,200

Generation 800



Product

Guarantee

years

N 295

N 285

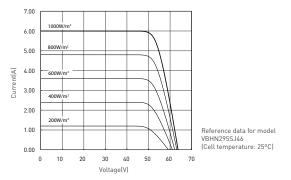


# Photovoltaic module HIT® N295, N285

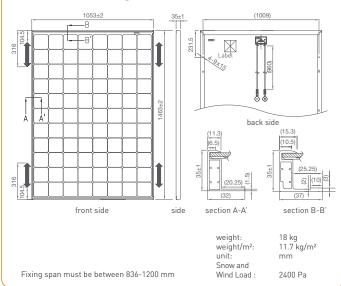
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Electrical data (at STC)	VBHN295SJ46	VBHN285SJ46		
Max. power (Pmax) [W]	295	285		
Voltage at Max. Power (Vmp)(V)	52.7	52.0		
Current at Max. Power (Imp)(A)	5.60	5.49		
Open circuit voltage (Voc) [V]	63.7	63.5		
Short circuit current (Isc) [A]	6.00	5.91		
Max. over current rating [A]	1	15		
Power tolerance [%] *	+10	+10/-0		
Max. system voltage [V]	10	1000		
Solar Panel efficiency (%)	19.1	18.5		
Note: Standard Test Conditions: Air mass 1.5; Irradiance = ^ * Maximum power at delivery. For guarantee conditions, ple	1000W/m²; cell temp ease check our guar	o. 25°C rantee 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 ]	-0.159	-0.159		
Temp. coefficient of lsc [mA/°C]	1.80	1.77		
At NOCT (Normal Operating Conditions)				
Max. power (Pmax) [W]	224.3	216.8		
Max. power voltage (Vmp) [V]	50.8	50.2		
Max. power current (Imp) [A]	4.48	4.38		
Open circuit voltage (Voc) [V]	60.2	59.9		
Short circuit current (Isc) [A]	4.83	4.76		
Note: Normal Operating Cell Temp.: Air mass 1.5; Irradianc Air temperature 20°C; wind speed 1 m/s	e = 800W/m <sup>2</sup> ;			
At low irradiance (20%)	F( 0	F ( )		
Max. power (Pmax) [W]	56.8	54.4 50.3		
Max. power voltage (Vmp) [V]	0110			
Max. power current (Imp) [A]	1.10	1.08		
Open circuit voltage (Voc) [V]	59.7	59.1		
Short circuit current (Isc) [A] Note: Low irradiance: Air mass 1.5; Irradiance = 200W/m²; (	1.20	1.18		

#### Dependence on irradiance



#### **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

Fire tested CLASS UNO ByTÜV Rheinland UNI 8457 UNI 9174 UNI 9177





Cettorian No MCS Protocol Destroate No MCS Protocol Protocolac System

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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