# **Panasonic**

# Bifacial Photovoltaic Module VBHN225DJ06



# Power per Square meter up to 207.9 Watts







Breezeway: El Solutions Burbank, CA

Patio Awning: Solar Living Design Lakewood,

# **High Efficiency**

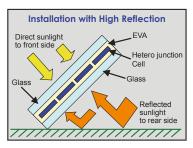
HIT™ Double is the world leader in sunlight conversion efficiency, helping customers to enjoy the maximum power per square meter from available space.

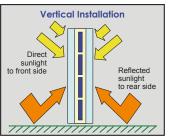
# **Power Guarantee**

Panasonic guarantees customers will receive 100% of the panel's rated power (or more) at the time of purchase, enabling owners to generate more kWh per rated watt.

# **Bifacial Effect**

The back face of the panel generates electricity from ambient light reflected off surrounding surfaces, and combines with power from the front face of the panel. Dependant upon system design and site albedo, this results in up to 30% higher power generation (more kWh) per square meter.





# **Application Possibilities**

- · Architectural, Awnings, Balconies, Bus Shelters, BIPV
- Deck & Porch Coverings, Canopies, Carports, Facades
- Fences, Siding, Trellises, Tracking Systems

# Proprietary Technology

Our bifacial solar cells are hybrids of single crystalline silicon surrounded by ultra-thin amorphous silicon layers, available solely from Panasonic.

# **High Temperature Performance**

As temperatures rise, the panel produces more electricity than conventional solar panels at the same temperature, for good performance in high temperature sites.

# **Quality Products**

Panasonic is truly committed to quality since it began developing and manufacturing solar PV in 1975. We have been the technology leader, and for decades many satisfied customers have placed their trust in the competence of our unique solar technology.

# **Brilliant Aesthetics**

This panel sets a new aesthetic standard in photovoltaic system design. With a double glass structure that allows brilliant light and shadows to shine through the panels, the solar cells truly appear to be floating in the air. Both residential and commercial customers will enjoy new architectural possibilities.



#### Specifications Including Backside Irradiation **Electrical Specifications** Contribution in ISC as a Percent of STC Model: VBHN225DJ06 Rated Powr (Pmax) 225W 236W 247W 259W 269W 280W 291W Maximum Power Voltage (Vpm 43.2V 43.7V 43.7V 43.7V 43.6V 43.6V 43.6V 5.21A 5.42A 5.67A 5.93A 6.18A 6.43A 6.68A Maximu Power Current (Ipm) Open Circuit Voltage (Voc) 52.4V 52.5V 52.6V 52.7V 52.8V 52.9V 53.0V Short Circuit Current (Isc) 5.54A 5.82A 6.09A 6.37A 6.65A 6.92A 7.20A 600V Max. System Voltage (Vsvs) Warranted Tolerance ±10% Series Fuse Rating 15A Cell Efficiency 20.1% 16.0% Module Efficiency 160.7W 168.6W 176.4W 185.0W 192.1W 200 0W 207 9W Power per Square meter Note:Temperature Coefficient is tentative specification and may be subjected to change in the

# Temperature Characteristics (VBHN225DJ06)

Temperature (NOCT)	45.8℃
Temp. Coefficient of Pmax	-0.29%/℃
Temp. Coefficient of Voc	-0.124V/℃
Temp. Coefficient of Isc	0.003A/℃

## **At NOCT (Normal Operating Coditions)**

Max. Power(Pmax)	169.6W
Max. Power Voltage (Vmp)	40.9V
Max Power Current (Imp)	4.14A
Open Circuit Voltage (Voc)	49.5V
Short Circuit Voltage (Isc)	4.46A

### To Maximize Power

- 1. Elevate panels above a surface as much as possible.
- 2. Place panels over light-colored surfaces.
- 3. Do not allow support rails to shade the panel's back face.

## At low irradiance

Max. Power (Pmax)	42.7W
Max. Power Voltage (Vmp)	41.8V
Max Power Current (Imp)	1.02A
Open Circuit Voltage (Voc)	48.9V
Short Circuit Voltage (Isc)	1.11A

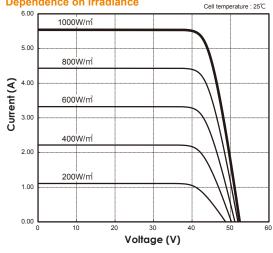
# **Safety Rating & Limited Warranty**

Ambient Operating Temperature	-20℃~+40℃
Safety & Rating Certifications	JET IEC61215, IEC61730-1, IEC61730-2
Limited Warranty	Power output: 10 years (90% of Pmin), 25 years (80% fo Pmin) Product workmanship: 10 years (based on guarntee documents)

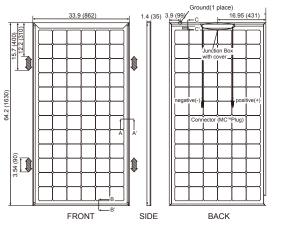
## **Mechanical Specifications**

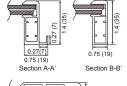
Internal Bypass Diodes	3 Bypass Diodes
Module Area	1.4 m²
Module Weight	24 kg
Module Dimension	1630 x 862 x 35mm
Cable Lengths/ size	1370, 1370 mm/4.0 sq
Connector	MC3 (PV-KBT/KST-3II-UR)
Statistics load	"50PSF (2400Pa) /112PSF (5400Pa) *Mount on long side only"
Pallet Dimentions	1657×879×150mm
Quantity per pallet/Pallet weight	36pcs/880kg
Quantity per 20FT/40FT container	216 pcs/ 504 pcs

# Dependence on Irradiance



# **Dimensions Unit: inches (mm)**







Note: A module must be installed on a support structure rail using four symmetrical mounting points within Range A.

IMPORTANT: The rated power of HIT™ Double is measured under Standard Test Conditions (STC). STC does not account for power produced from the back face of panels. Therefore, HIT Double panels will produce more power than their STC rating, up to 30% more, depending upon the system design and site albedo. Account for the additional power when sizing, selecting system components and wiring.

manufactured by SANYO Electric Co., Ltd.

Please contact

CAUTION! Please read the installation manual carefully before using the products.

# Panasonic Corporation Eco Solutions Company

Solar Business Unit, Energy Systems Business Division

- Head Office: 1048, Kadoma, Kadoma City, Osaka 571-8686, Japan
- Tel: +81-6-6900-2720 Fax: +81-6-6900-2820

http://panasonic.net/ecosolutions/solar

