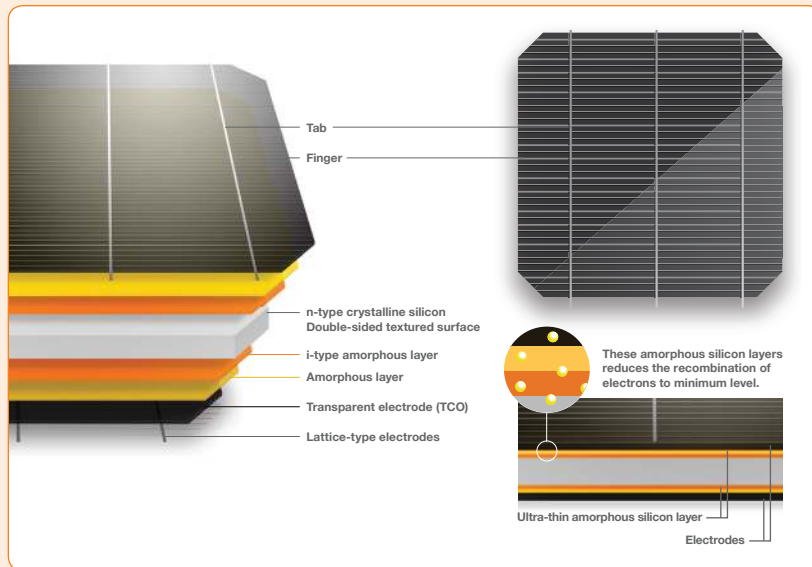
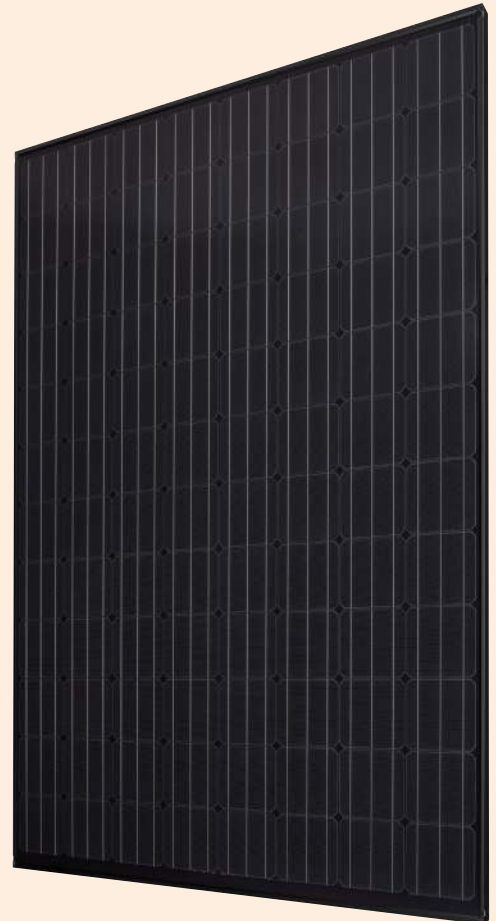


## N320K/N315K/N310K

Panasonic's unique heterojunction technology uses ultra-thin amorphous silicon layers. These thin dual layers reduce losses, resulting in higher energy output than conventional panels.



Panasonic HIT® Black is the brand new all-black module which features high efficiency 19.1%, industry leading temperature coefficient of  $-0.258\% / ^\circ\text{C}$  and a sleek design. Powerful and aesthetic designed to make your roof look great.



### Our competitive advantages



#### High Efficiency at High Temperatures

As temperature increases, HIT® continues to perform at high levels due to the industry leading temperature coefficient of  $-0.258\% / ^\circ\text{C}$ . No other module even comes close to our temperature characteristics. That means more energy throughout the day.



#### 25 Year Product and Performance Warranty\*\*

Industry leading 25 year product workmanship and performance warranty is backed by a century old company- Panasonic. Power output is guaranteed to 90.76% after 25 years, far greater than other companies.



#### Quality and Reliability

Panasonic's vertical integration, 20 years of experience manufacturing HIT® and 20 internal tests beyond those mandated by current standards provides extreme quality assurance.



#### Higher Efficiency 19.7%

Enables higher power output and greater energy yields. HIT® provides maximum production for your limited roof space.



#### Low Degradation

HIT "N-type" cells result in extremely Low Light Induced Degradation (LID) and zero Potential Induced Degradation (PID) which supports reliability and longevity. This technology reduces annual degradation to 0.26% compare to 0.70% in conventional panels, guaranteeing more power for the long haul.



#### Unique water drainage

The water drainage system give rain, water and snow melt a place to go, reducing water stains and soiling on the panel. Less dirt on the panel means more sunlight getting through to generate power.

# N320K/N315K/N310K

## ELECTRICAL SPECIFICATIONS

Model	VBHN320KA01	VBHN315KA01	VBHN310KA01
Rated Power (P <sub>max</sub> ) <sup>1</sup>	320W	315W	310W
Maximum Power Voltage (V <sub>pm</sub> )	58.7V	58.4V	58.1V
Maximum Power Current (I <sub>pm</sub> )	5.46A	5.40A	5.34A
Open Circuit Voltage (V <sub>oc</sub> )	70.5V	70.2V	69.9V
Short Circuit Current (I <sub>sc</sub> )	5.89A	5.83A	5.78A
Temperature Coefficient (P <sub>max</sub> )	-0.258%/°C	-0.258%/°C	-0.258%/°C
Temperature Coefficient (V <sub>oc</sub> )	-0.16V/°C	-0.16V/°C	-0.16V/°C
Temperature Coefficient (I <sub>sc</sub> )	3.21mA/°C	3.21mA/°C	3.21mA/°C
NOCT	44.0°C	44.0°C	44.0°C
CEC PTC Rating	301.7	296.9	292.1
Cell Efficiency	21.6%	21.2%	20.9%
Module Efficiency	19.1%	18.8%	18.5%
Watts per Ft. <sup>2</sup>	17.8W	17.5W	17.2W
Maximum System Voltage	600V	600V	600V
Series Fuse Rating	15A	15A	15A
Warranted Tolerance (-/+)	+10%/-0%*	+10%/-0%*	+10%/-0%*

## MECHANICAL SPECIFICATIONS

Model	VBHN320KA01, VBHN315KA01, VBHN310KA01
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	63.7x42.2x5.4 in.
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	VBHN320KA01, VBHN315KA01, VBHN310KA01
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	25** Yrs Workmanship and Power Output (Linear)***

**NOTE:** Standard Test Conditions: Air mass 1.5; irradiance = 1000W/m<sup>2</sup>; cell temp. 25°C

\* Maximum power at delivery. For guarantee conditions, please check our guarantee document.

\*\* Installation need to be registered through our website [www.panasonicusahitwarranty.com](http://www.panasonicusahitwarranty.com) within 60 days in order to receive twenty-five (25) year Product workmanship. Otherwise, Product Workmanship will be only fifteen (15) years.

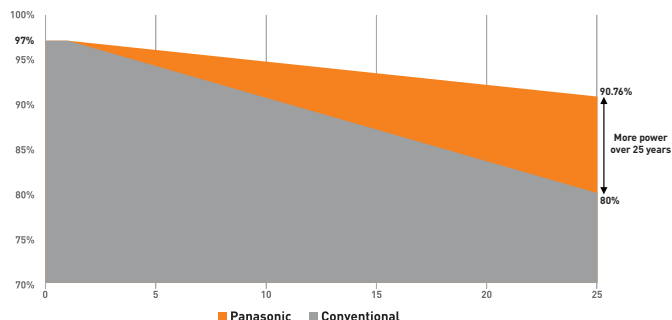
\*\*\* 1st year 97%, after 2nd year 0.26% annual degradation to year 25.

<sup>1</sup> STC: Cell temp. 25°C, AM1.5, 1000W/m<sup>2</sup>

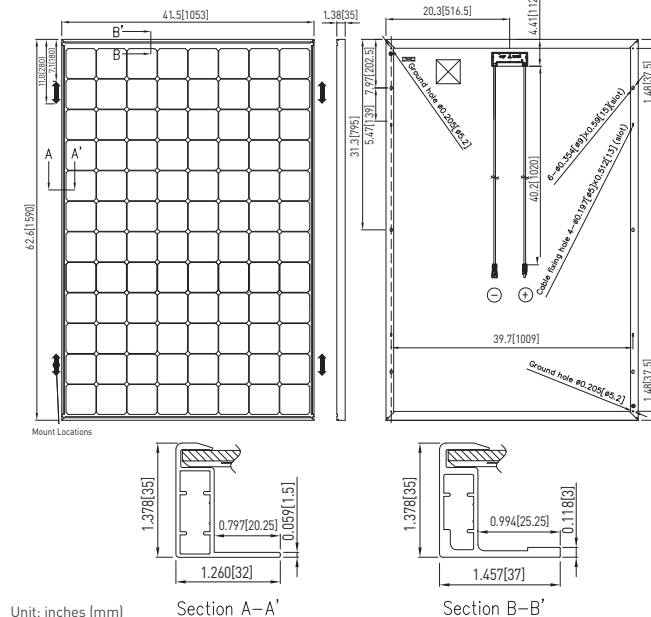
<sup>2</sup> Safety locking clip (PV-SSH4) is not supplied with the module.

**NOTE:** Specifications and information above may change without notice.

## PERFORMANCE WARRANTY



## DIMENSIONS

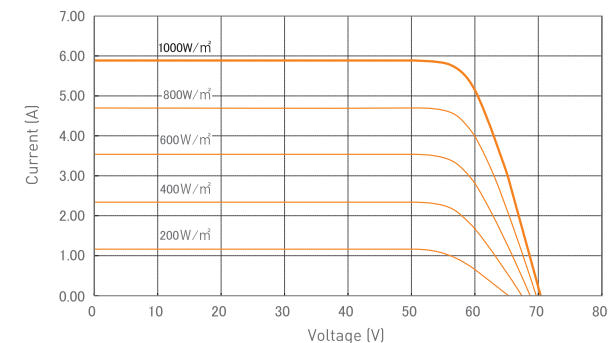


Unit: inches (mm)

Section A-A'

Section B-B'

## DEPENDENCE ON IRRADIANCE



Reference data for model: VBHN320KA01  
(Cell temperature: 25°C)

**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.