

Layout 11" X 17"  
Scale 3/32" = 1"

# Barbeau Site Plan

Roof Structure & Site Map



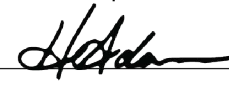
**Contractor:**

GENERAL CONTRACTOR:  
C&B RENEWABLE ENERGY,LLC  
12399 NW WAKER DR.  
PORTLAND OR.,97229  
503 828-9500  
CONTACT: CLIFF BARRY

**Customer:**

Jordan Barbeau  
2205 NW Johnson Street  
Portland OR. 97210  
650 799-7879



\*Approved\*  
City of Portland  
Bureau of Development Services  
Planner   
Date 12/15/20  
\* This approval applies only to the reviews requested and is subject to all conditions of approval. Additional zoning requirements may apply.

LU 20-198076 HR C-001

Plot Map

September 3, 2020



**Legend:**

Layout 8 ½" x 11"

Scale 3/32" = 1"

# Barbeau Residence

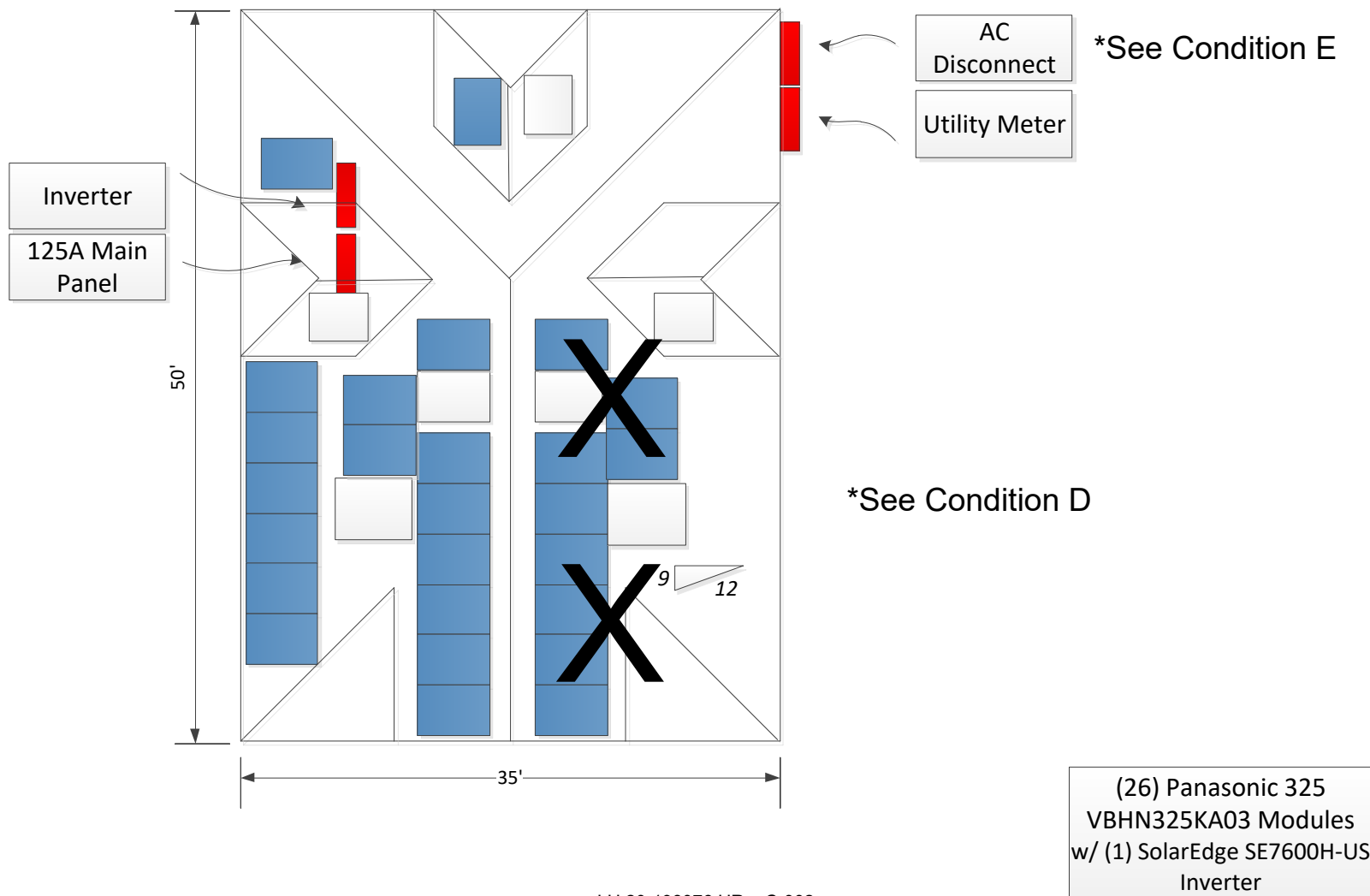
## Roof Top Photovoltaic System Layout

\*Approved\*  
City of Portland  
Bureau of Development Services

Planner *[Signature]*

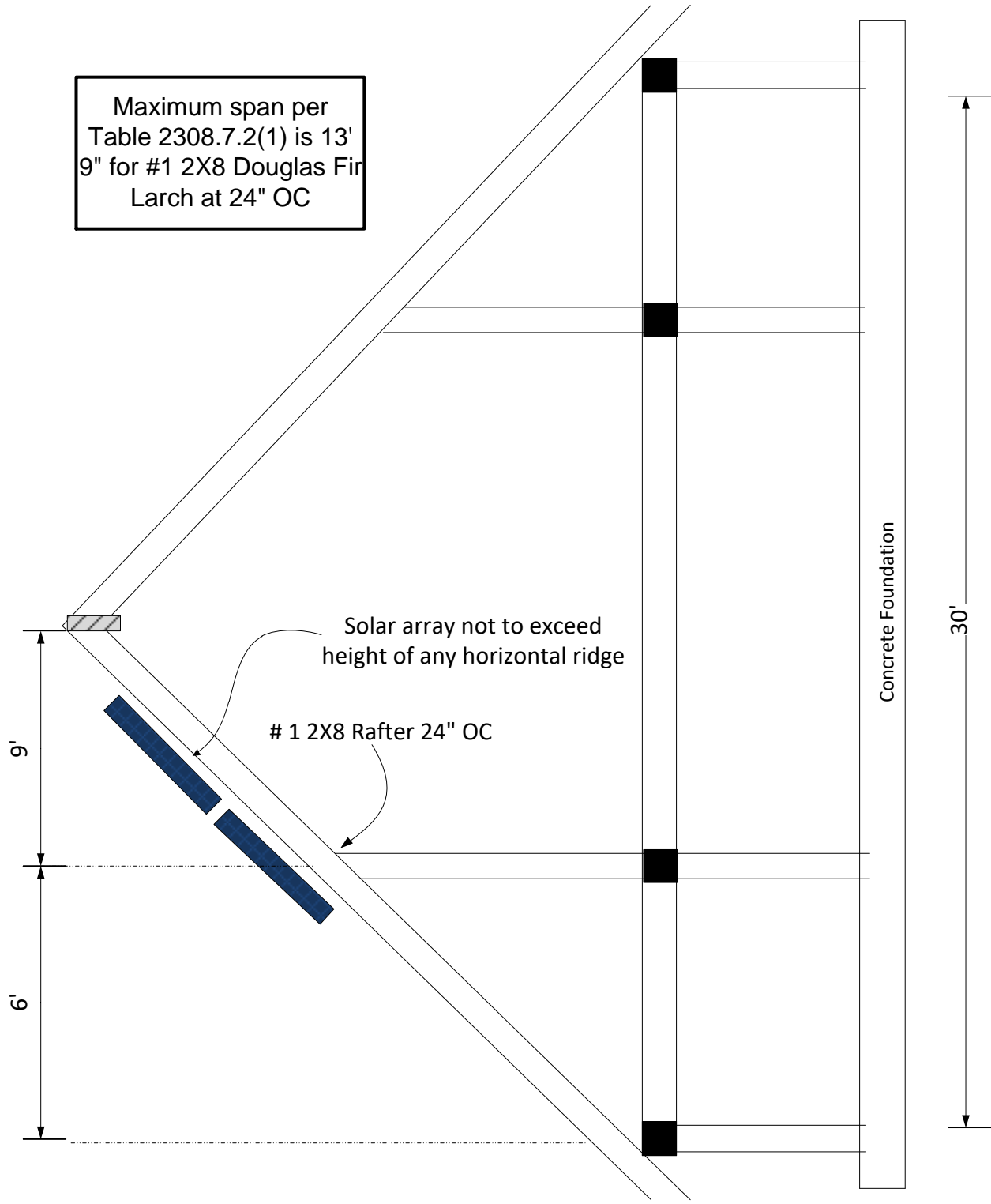
Date 12/15/20

\* This approval applies only to the reviews requested and is subject to all conditions of approval. Additional zoning requirements may apply.



# Barbeau Site Plan

Roof Structure & Site Map



\*See Condition F




**Contractor:**

GENERAL CONTRACTOR:  
C&B RENEWABLE ENERGY,LLC  
12399 NW WAKER DR.  
PORTLAND OR.,97229  
503 828-9500  
CONTACT: CLIFF BARRY

**Customer:**

Jordan Barbeau  
2205 NW Johnson Street  
Portland OR. 97210  
650 799-7879

\*Approved\*  
City of Portland  
Bureau of Development Services  
Planner   
Date 12/15/20  
\* This approval applies only to the reviews requested and is subject to all conditions of approval. Additional zoning requirements may apply.

Layout 11" X 17"

Scale 3/32" = 1"

# Barbeau Site Plan

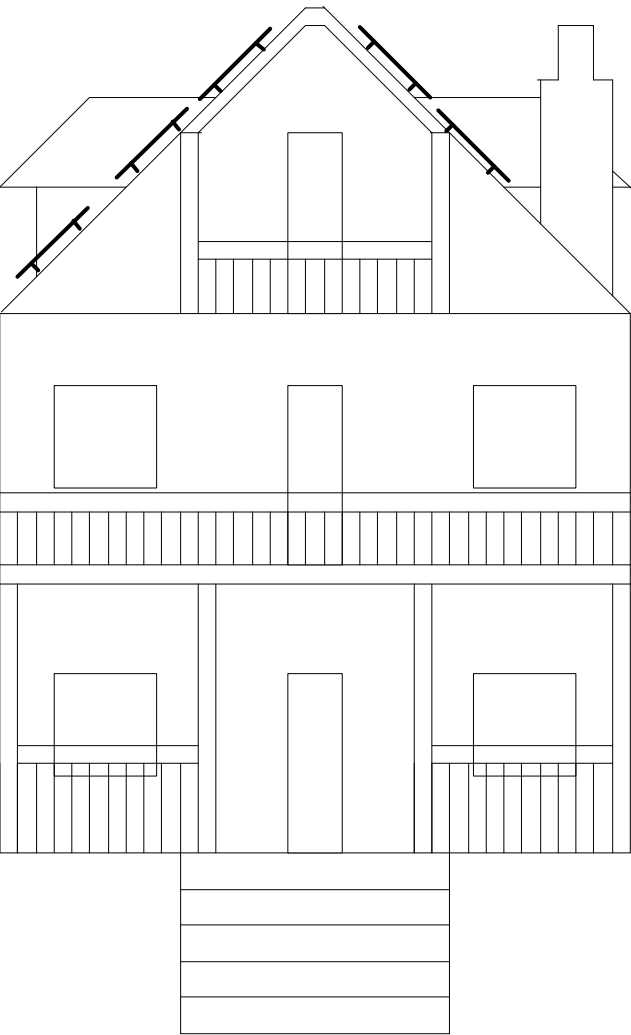
Elevation

\*Approved\*  
City of Portland  
Bureau of Development Services

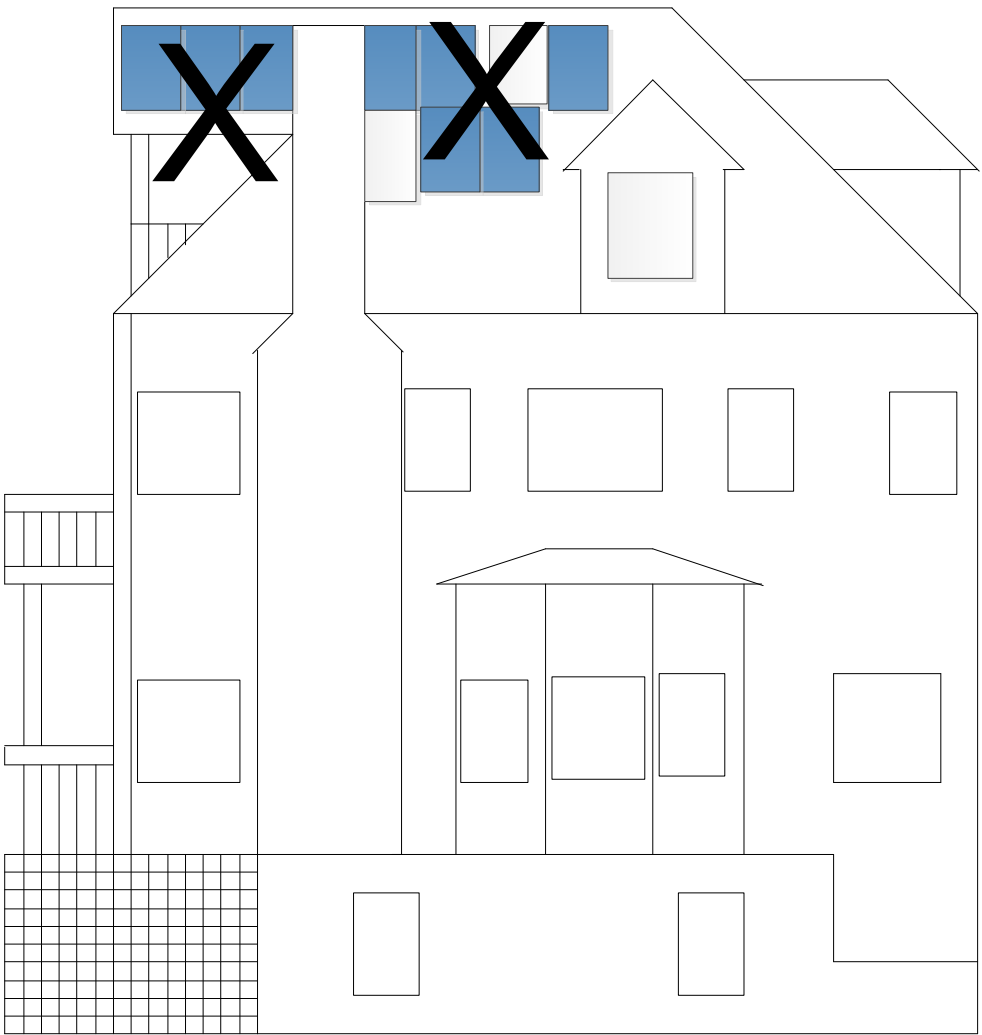
Planner *H. Adan*

Date 12/15/20

\* This approval applies only to the reviews requested and is subject to all conditions of approval. Additional zoning requirements may apply.



Street View



East Side



West Side

\*See Condition D

\*See Condition E



**Contractor:**

GENERAL CONTRACTOR:  
C&B RENEWABLE ENERGY, LLC  
12399 NW WAKER DR.  
PORTLAND OR., 97229  
503 828-9500  
CONTACT: CLIFF BARRY

**Customer:**

Jordan Barbeau  
2205 NW Johnson Street  
Portland OR. 97210  
650 799-7879

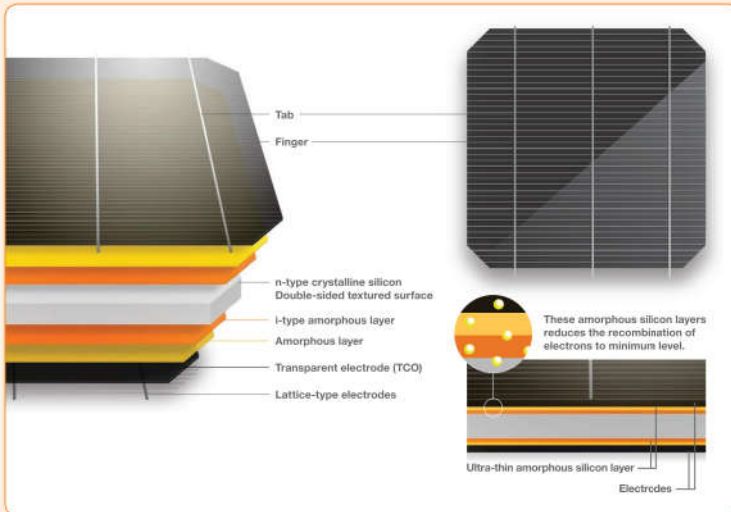
LU 20-198076 HR C-004

Plot Map

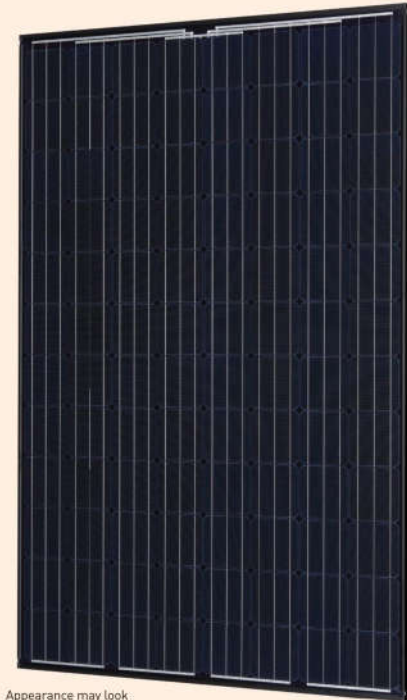
September 3, 2020

## N325K / N320K

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 19.4%, industry leading temperature coefficient of  $-0.258\% / ^\circ\text{C}$  and a sleek design. Powerful and aesthetically designed to make your roof look great.



Appearance may look different on actual product



## 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, 21 years of experience manufacturing HIT® and 20 internal tests beyond those mandated by current standards provides extreme quality assurance.



### Higher Efficiency 19.4%

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.



### Enhanced Frame Design

A new 40mm frame increases durability and strength, being able to handle loads of up to 5400Pa. Also, the water drainage system gives rain water and snow melt a place to go, reducing water stains and soiling. Less dirt on the module means more sunlight getting through to generate power.



# N325K / N320K

## ELECTRICAL SPECIFICATIONS

Model	VBHN325KA03	VBHN320KA03
Rated Power (P <sub>max</sub> ) <sup>1</sup>	325W	320W
Maximum Power Voltage (V <sub>pm</sub> )	59.2V	58.7V
Maximum Power Current (I <sub>pm</sub> )	5.50A	5.46A
Open Circuit Voltage (V <sub>oc</sub> )	70.9V	70.5V
Short Circuit Current (I <sub>sc</sub> )	5.94A	5.89A
Temperature Coefficient (P <sub>max</sub> )	-0.258%/°C	-0.258%/°C
Temperature Coefficient (V <sub>oc</sub> )	-0.17V/°C	-0.16V/°C
Temperature Coefficient (I <sub>sc</sub> )	3.27mA/°C	3.21mA/°C
NOCT	44.0°C	44.0°C
CEC PTC Rating (Tentative)	308.5	303.7
Cell Efficiency	21.8%	21.5%
Module Efficiency	19.4%	19.1%
Watts per Ft. <sup>2</sup>	18.03W	17.8W
Maximum System Voltage	600V	600V
Series Fuse Rating	15A	15A
Warranted Tolerance (-/+)	+10%/-0%*	+10%/-0%*

## MECHANICAL SPECIFICATIONS

Model	VBHN325KA03, VBHN320KA03
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	62.6 x 41.5 x 1.6 [1590x1053x40mm]
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	112 PSF [5400Pa]****
Pallet Dimensions LxWxH	65.3x43.7x48.5 in. [USA] 63.7x42.2x46.4 in. [Malaysia]
Quantity per Pallet / Pallet Weight	24 pcs./1049 Lbs. [476 kg]
Quantity per 40' Container	672 pcs.
Quantity per 20' Container	288 pcs.

## Operating Conditions & Safety Ratings

Model	VBHN325KA03, VBHN320KA03
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 Certified by UL LLC. CEC, FSEC, ISO9001
UL 1703 Fire Classification	Type 2
Limited Warranty	25** Yrs Workmanship and Power Output [Linear]***
Manufacturing Locations	USA and Malaysia

**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.

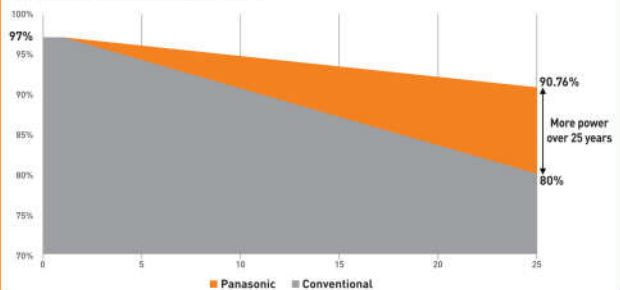
\*\*\* 1st year 97%; after 2nd year 0.26% annual degradation to year 25.

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

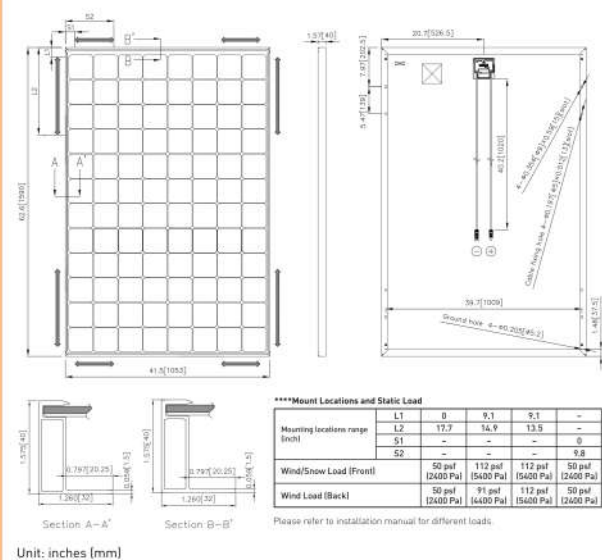
<sup>2</sup> Safety locking clip (PV-SSH4) is not supplied with the module.

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

## PERFORMANCE WARRANTY

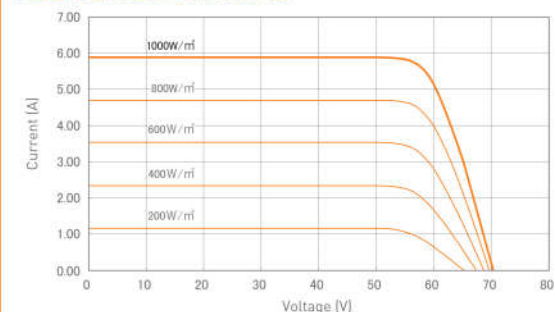


## DIMENSIONS



Unit: inches (mm)

## DEPENDENCE ON IRRADIANCE



Reference data for model: VBHN325KA03  
 (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.