

# NHD-0.6-Breakout

## Breakout Board for 0.6" Color OLED Glass

NHD-            Newhaven Display  
0.6-            0.6" Diagonal Size  
Breakout-     Breakout Board

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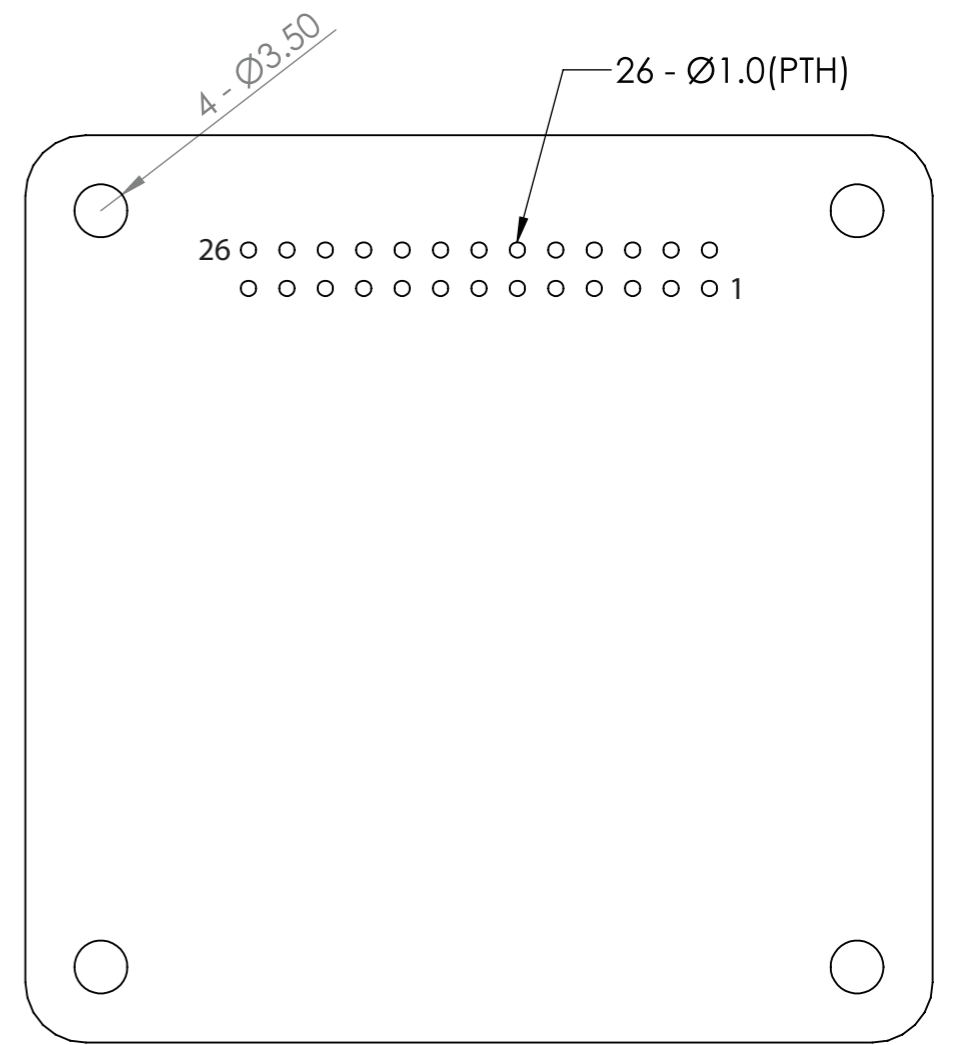
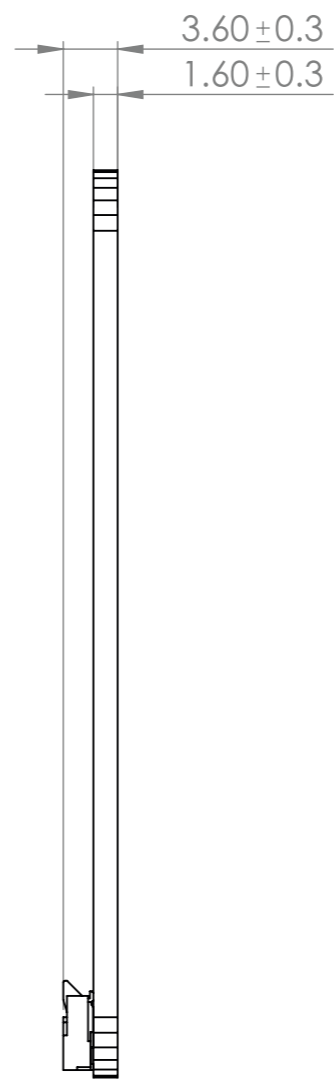
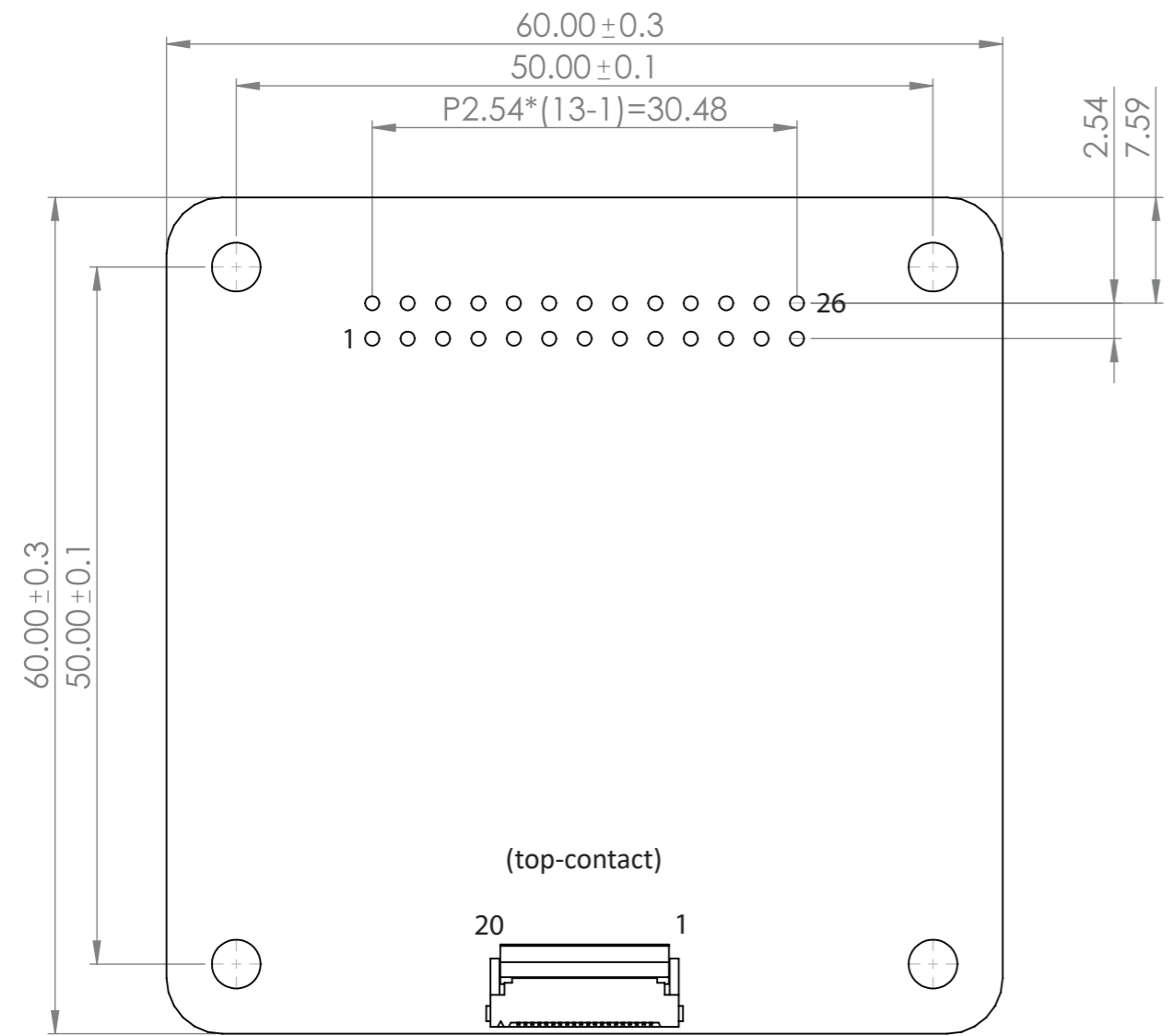
## Document Revision History

Revision	Date	Description	Changed by
-	09/17/19	Initial Release	PB

## Functions and Features

- Breakout board for 0.6" Color OLED Glass (NHD-0.6-6464G)
- On-board booster circuit (FAN5331SX)
- Jumper option to bypass booster circuit and provide  $V_{CC}$  directly
- Open source hardware

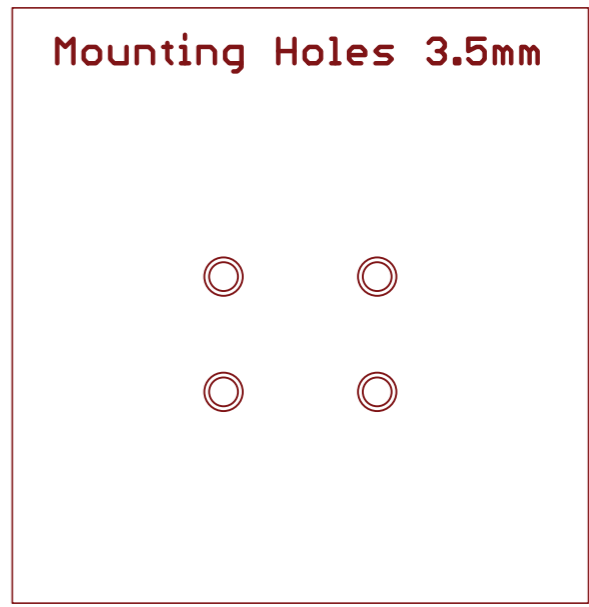
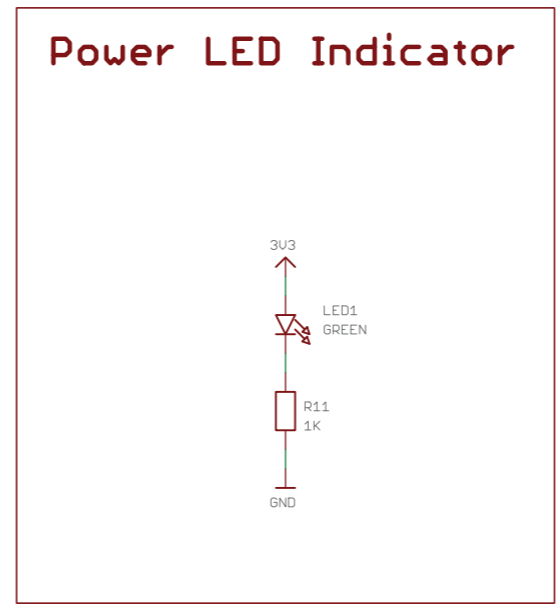
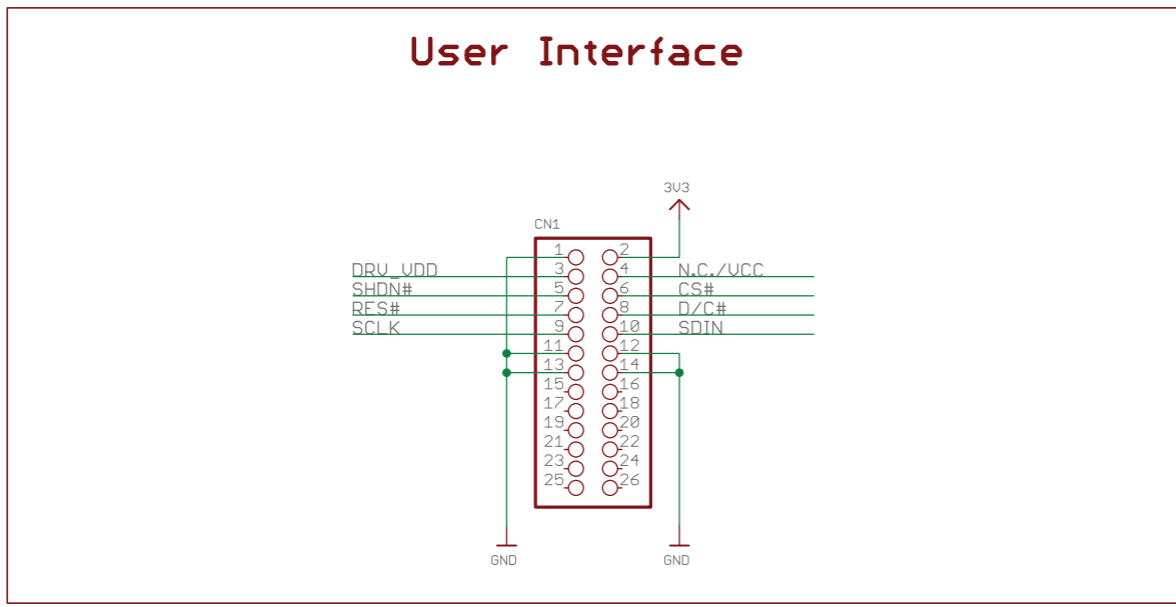
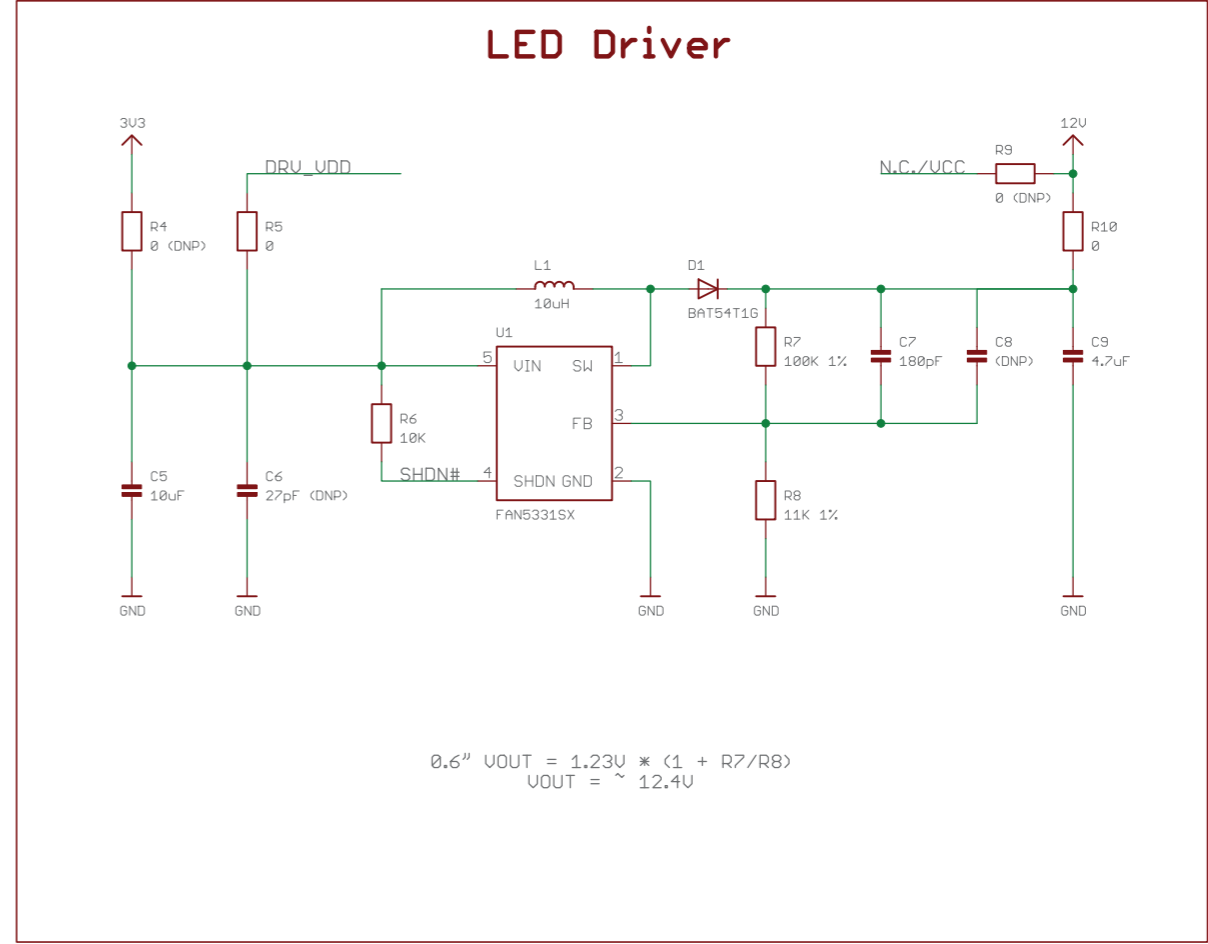
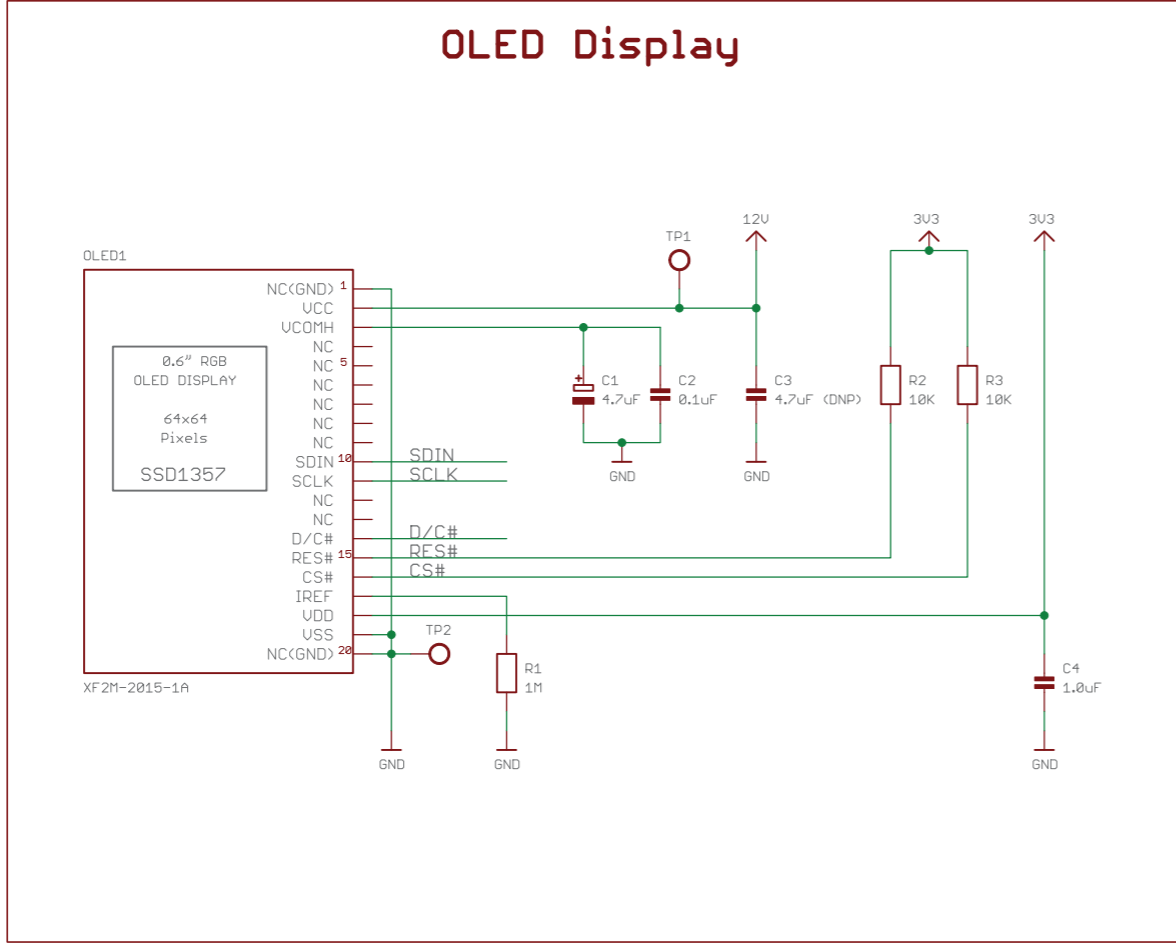
SYMBOL	REVISION	DATE



[read caution below]

OLED Panel must be connected with gold fingers **facing upward** (top-contact), for the display to operate and not be damaged.

STANDARD TOLERANCE: (UNLESS OTHERWISE SPECIFIED)		
	LINEAR: ±0.3mm	DRAWING/PART NUMBER: <b>NHD-0.6-Breakout</b>
UNLESS OTHERWISE SPECIFIED: - DIMENSIONS ARE IN MILLIMETERS - THIRD ANGLE PROJECTION	DRAWN BY: P. Bartek	APPROVED BY: P. Bartek
	DRAWN DATE: 09/17/19	APPROVED DATE: 09/17/19
DO NOT SCALE DRAWING		REVISION: - SIZE: A3 SCALE: 2:1 SHEET 1 OF 1
THIS DRAWING IS SOLELY THE PROPERTY OF NEWHAVEN DISPLAY INTERNATIONAL, INC. THE INFORMATION IT CONTAINS IS NOT TO BE DISCLOSED, REPRODUCED OR COPIED IN WHOLE OR PART WITHOUT WRITTEN APPROVAL FROM NEWHAVEN DISPLAY.		



## Pin Description

Pin No.	Symbol	External Connection	Function Description
1	GND	Power Supply	Ground
2	3V3	Power Supply	Supply Voltage for OLED Logic (+3.3V)
3	DRV_VDD	Power Supply	Supply Voltage for boost converter (+5V) to drive OLED panel voltage (VCC). (Should be no connect if using pin 4 to apply external VCC)
4	N.C./VCC	-	No Connect by default. Can be configured for external VCC (+12V). (refer to On-Board Jumper Options table below)
5	SHDN#	MPU	Active LOW Shutdown control pin for boost converter (pulled HIGH via on-board 10kΩ resistor)
6	CS#	MPU	Active LOW Chip Select signal
7	RES#	MPU	Active LOW Reset signal
8	D/C#	MPU	Data/Command selection. LOW: Command. HIGH: Data
9	SCLK	MPU	Serial Clock Input signal
10	SDIN	MPU	Serial Data Input signal
11-14	GND	Power Supply	Ground
15-26	N.C.	-	No Connect

## On-Board Jumper Options

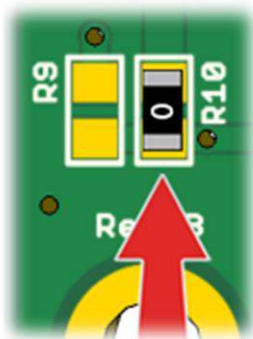
### Default Jumper Setting

R9	R10	Description
Open	Close	<b>(default)</b> Boost converter circuit (+5V on pin 3) is used to provide VCC to OLED Glass.

### Jumper Option #1 – External Supply Voltage for OLED Panel (VCC)

R9	R10	Description
Close	Open	Boost converter circuit (pin 3) is not used. User must apply VCC (+12V) externally to (pin 4). OLED logic is still powered from 3V3 (pin 2). This method allows for minimum current drain.

*Default Jumper Setting*



*Jumper Option #1*



## Electrical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Operating Temperature Range	T <sub>OP</sub>	Absolute Max	-40	-	+70	°C
Storage Temperature Range	T <sub>ST</sub>	Absolute Max	-40	-	+85	°C
Supply Voltage for OLED Logic	3V3	-	2.8	3.0	3.5	V
Supply Voltage for Boost Circuit	DRV_VDD	-	-	5.0	5.5	V
Supply Voltage for OLED Panel	V <sub>CC</sub>	-	11.5	12.0	12.5	V

**NOTICE:** It is not recommended to apply power to the board without a display connected. Doing so may result in a damaged booster circuit. Newhaven Display does not assume responsibility for PCB failures due to this damage.

## Compatible OLED Glass

This board is designed to drive and breakout the signals of the NHD-0.6-6464G.

Please download specification at <http://www.newhavendisplay.com/specs/NHD-0.6-6464G.pdf>

## Quality Information

Test Item	Content of Test	Test Condition	Note
High Temperature storage	Test the endurance of the display at high storage temperature.	+85°C, 240 Hrs.	2
Low Temperature storage	Test the endurance of the display at low storage temperature.	-40°C, 240 Hrs.	1,2
High Temperature Operation	Test the endurance of the display by applying electric stress (voltage & current) at high temperature.	+70°C, 240 Hrs.	2
Low Temperature Operation	Test the endurance of the display by applying electric stress (voltage & current) at low temperature.	-40°C, 240 Hrs.	1,2
High Temperature / Humidity Operation	Test the endurance of the display by applying electric stress (voltage & current) at high temperature with high humidity.	+60°C, 90% RH, 120 Hrs.	1,2

**Note 1:** No condensation to be observed.

**Note 2:** Conducted after 2 hours of storage at 25°C, 0%RH.

## Precautions for using OLEDs/LCDs/LCMs

See Precautions at [www.newhavendisplay.com/specs/precautions.pdf](http://www.newhavendisplay.com/specs/precautions.pdf)

## Warranty Information

See Terms & Conditions at [http://www.newhavendisplay.com/index.php?main\\_page=terms](http://www.newhavendisplay.com/index.php?main_page=terms)