

# NHD-0.6-Breakout

## Breakout Board for 0.6" Color OLED Glass

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

**Newhaven Display International, Inc.**

2661 Galvin Ct.

Elgin IL, 60124

Ph: 847-844-8795

Fax: 847-844-8796

[www.newhavendisplay.com](http://www.newhavendisplay.com)

[nhtech@newhavendisplay.com](mailto:nhtech@newhavendisplay.com)

[nhsales@newhavendisplay.com](mailto:nhsales@newhavendisplay.com)

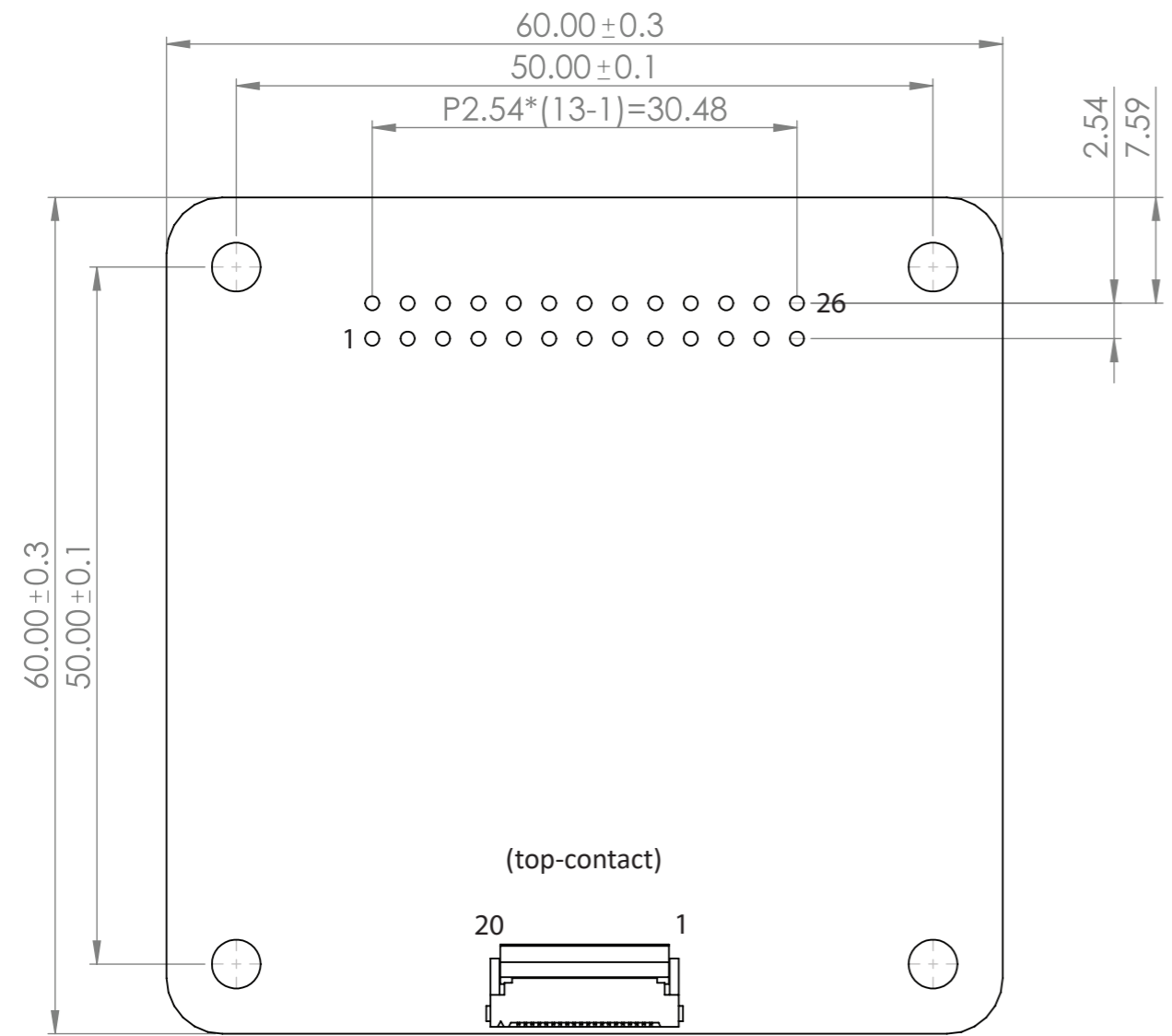
## Document Revision History

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

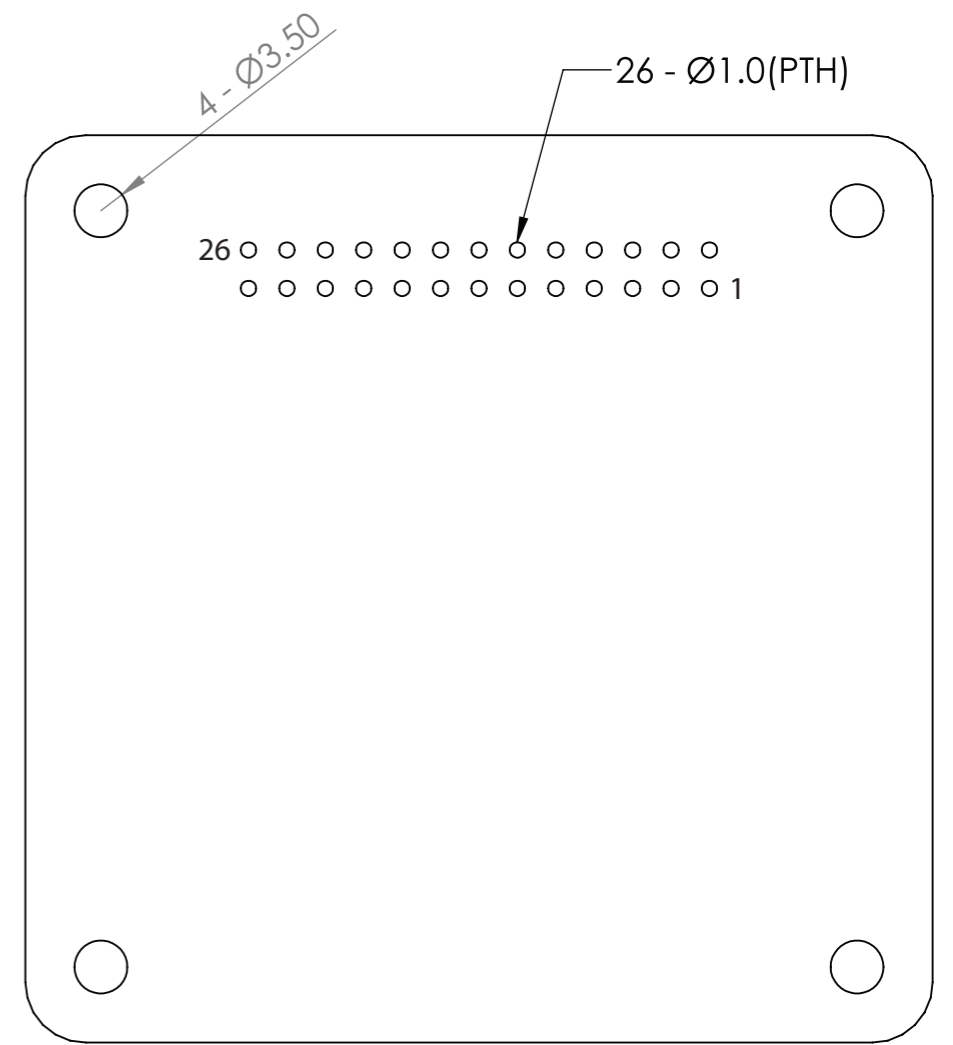
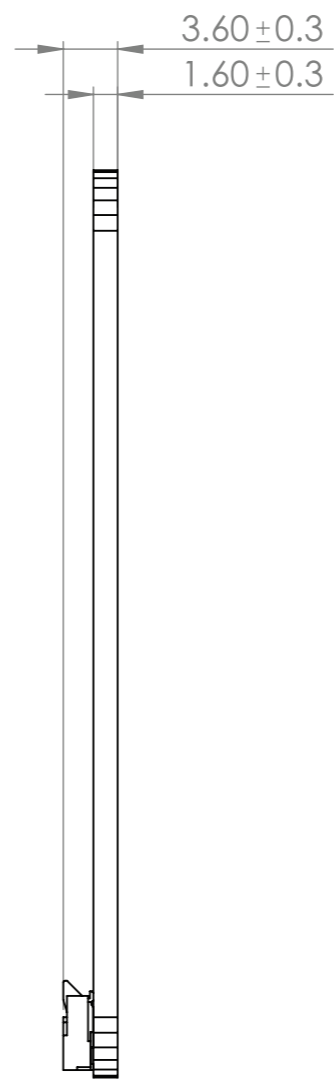
## Functions and Features

- 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

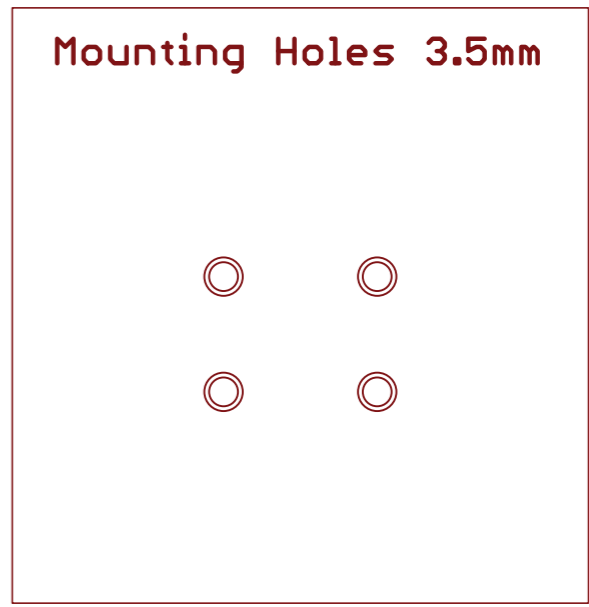
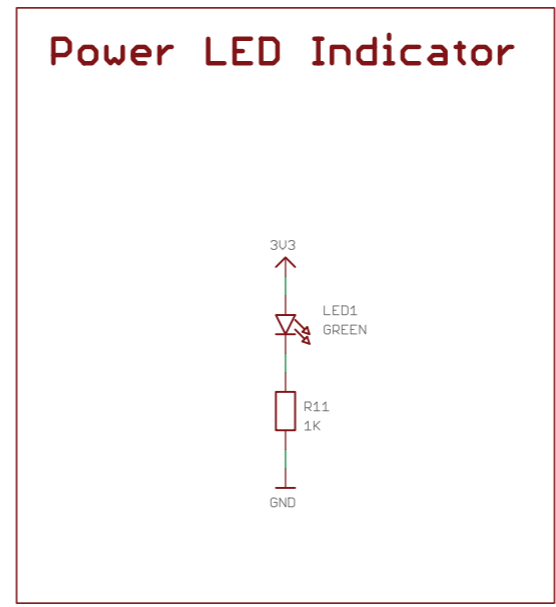
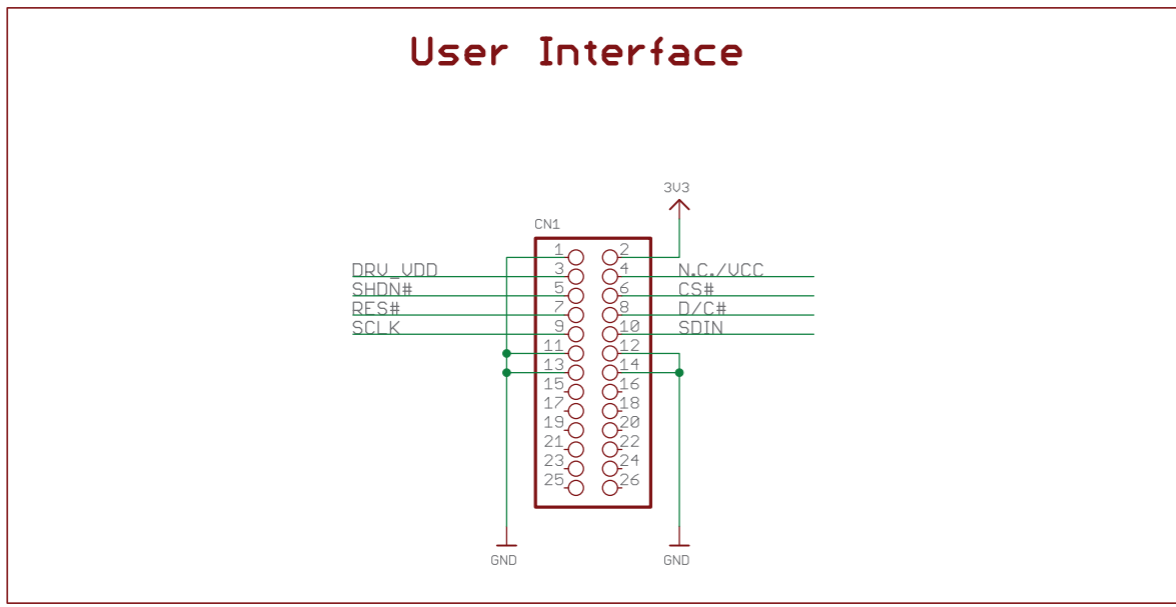
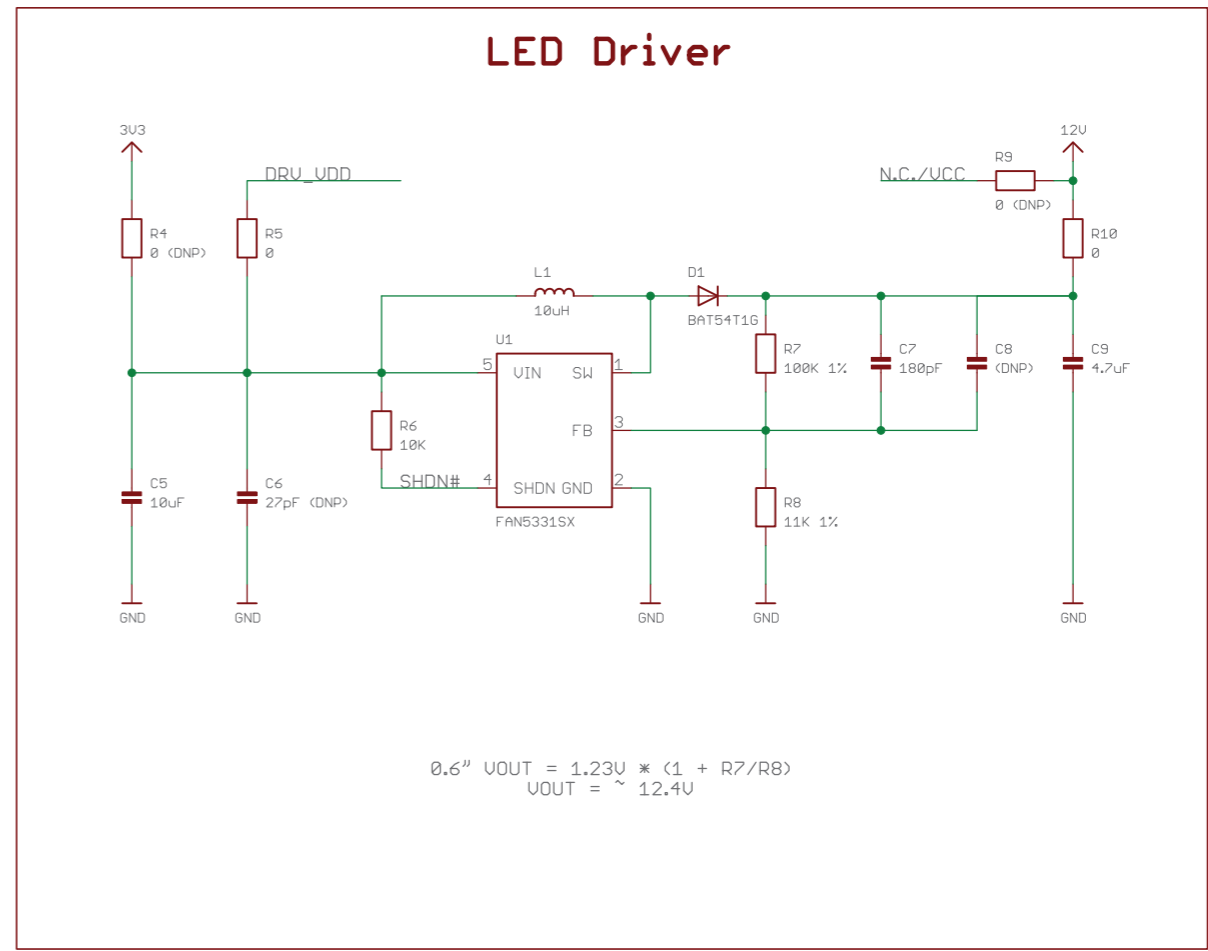
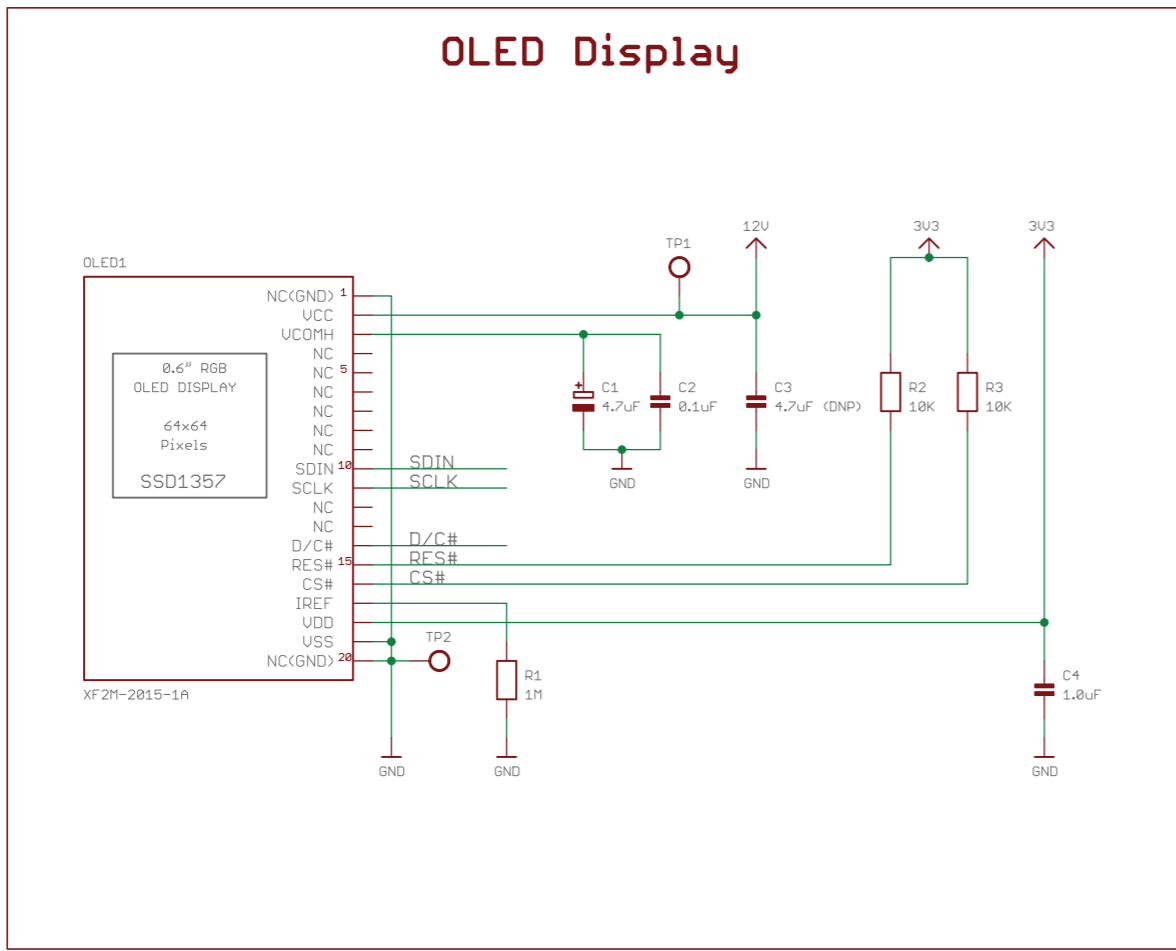


[read caution below]



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	SHEET 1 OF 1
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## 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)