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NHD-5.7-640480WF-CTXL#

TFT (Thin-Film-Transistor) Color Liquid Crystal Display Module

NHD-	Newhaven Display
5.7-	5.7” Diagonal
640480-	640xRGBx480 pixels
WF-	Model
C-	Built-in driver + Controller
T-	White LED backlight
X-	TFT
L-	12:00 view, Wide Temp
#	**RoHS Compliant**

Newhaven Display International, Inc.

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Elgin IL, 60124

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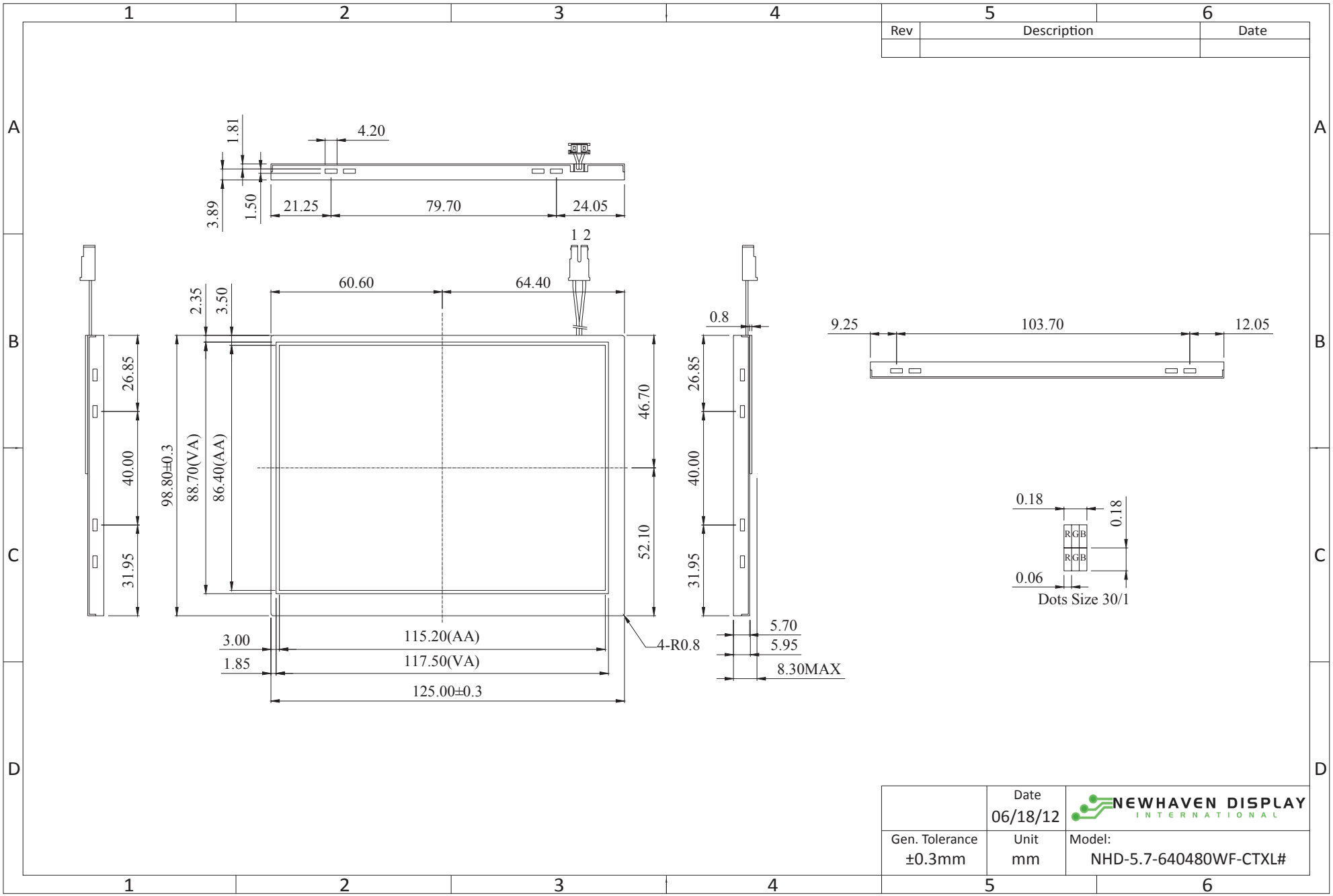
Document Revision History

Revision	Date	Description	Changed by
0	3/9/2009	Initial Release	CL
1	6/18/2012	Pin description updated	AK

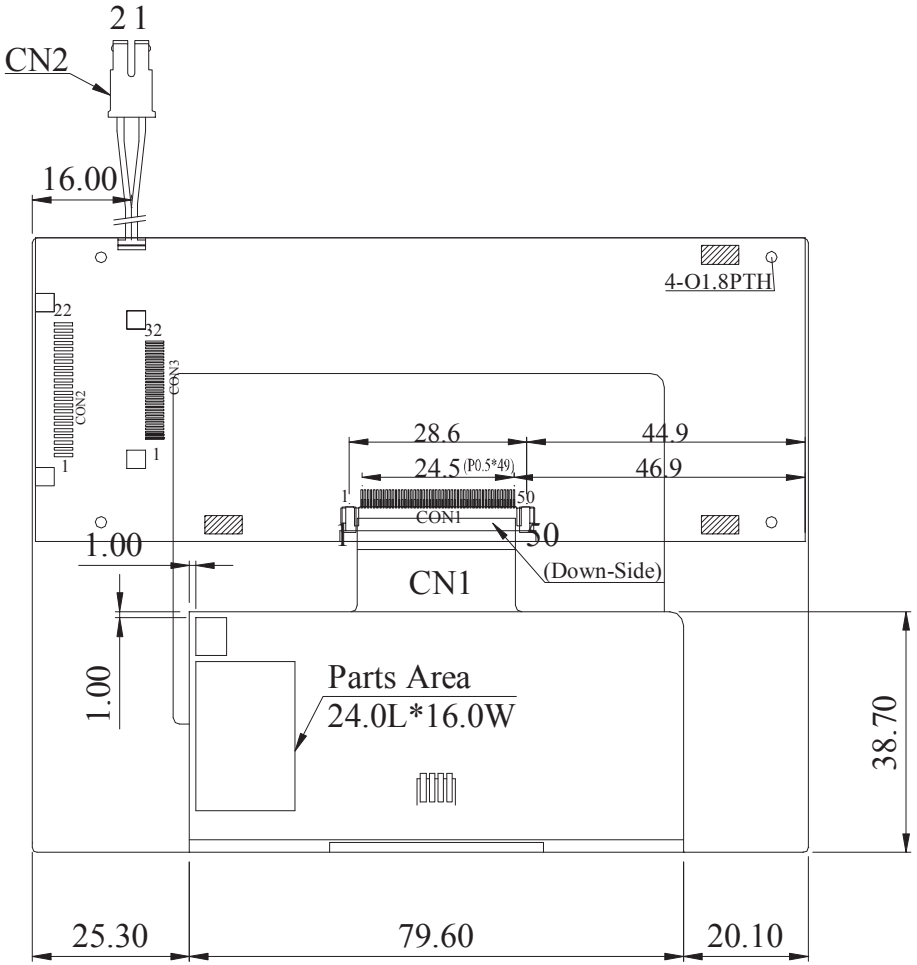
Functions and Features

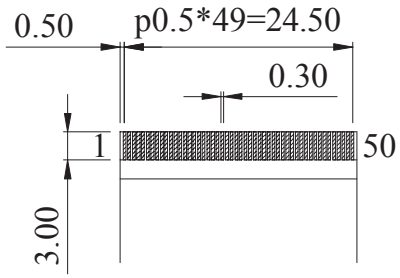
- **640xRGBx480 resolution**
- **LED backlight**
- **8-bit parallel interface**
- **SSD1963 Controller**

Mechanical Drawing



Rev	Description	Date





PIN NO.	SYMBOL
1	GND
2	VDD
3	VO
4	A0
5	R/W
6	E
7	DB0
8	DB1
9	DB2
10	DB3
11	DB4
12	DB5
13	DB6
14	DB7
15	CS
16	UD
17	LR
18	RST
19	NC
20	NC

	Date	
	06/18/12	NEWHAVEN DISPLAY INTERNATIONAL
Gen. Tolerance	Unit	Model:
±0.3mm	mm	NHD-5.7-640480WF-CTXL#

Pin Description

Note: CON2 has a 20-pin, 1.0mm pitch, Top-Contact FFC Connector. Pins 21 and 22 are not connected.

CON2:

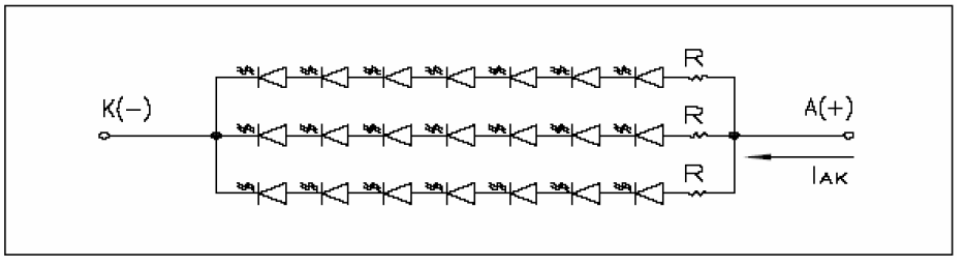
Pin No.	Symbol	External Connection	Function Description
1	GND	Power Supply	Ground
2	VCC	Power Supply	Power supply for LCD and logic (3.3V)
3	NC	-	No Connect
4	D/C#	MPU	Register Select signal – 0: Command, 1: Data
5	WR#	MPU	Active LOW Write signal, 8080 MPU interface
6	RD#	MPU	Active LOW Read signal, 8080 MPU interface
7-14	[DB0-DB7]	MPU	Bi-directional data bus lines
15	CS#	MPU	Active LOW Chip Select signal
16	U/D	MPU	Scan direction 1: Up, 0: Down
17	R/L	MPU	Scan direction 1: Right, 0: Left
18	RES#	MPU	Active LOW Reset signal
19	NC	-	No Connect
20	NC	-	No Connect

Recommended LCD connector: 1.0mm pitch 20-Conductor FFC. Molex p/n 52746-2070

Backlight:

Pin No.	Symbol	External Connection	Function Description
1	VCC	Power Supply	LED Anode (60mA @ 23.1V)
2	VCC	Power Supply	LED Cathode

Backlight connector: JST p/n: BHSR-02VS-1 **Mates with**: JST p/n: SM 02B-BHSS-1



Controller Information

Built-in SSD1963 controller.
Please download specification at http://www.newhavendisplay.com/app_notes/SSD1963.pdf

8080 Mode Interface:

The 8080 mode MPU interface consists of CS#, D/C, RD#, WR#, and DB[7:0]. This interface uses WR# to define a write cycle and RD# to define a read cycle. If the WR# goes LOW when the CS# signal is LOW, the data or command will be latched into the system at the rising edge of WR#. Similarly, the read cycle will start when RD# goes LOW and end at the rising edge of RD#. See the SSD1963 datasheet for detailed timing diagrams.

Command Instructions:

See the SSD1963 datasheet for the Instruction Table and Command Descriptions.

Pixel Data Format:

Interface	Cycle	D[7]	D[6]	D[5]	D[4]	D[3]	D[2]	D[1]	D[0]
8 bits	1st	R7	R6	R5	R4	R3	R2	R1	R0
	2nd	G7	G6	G5	G4	G3	G2	G1	G0
	3rd	B7	B6	B5	B4	B3	B2	B1	B0

Electrical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Operating Temperature Range	Top	Absolute Max	-20	-	+70	°C
Storage Temperature Range	Tst	Absolute Max	-30	-	+80	°C
Supply Voltage	VCC	-	3.0	3.3	3.6	V
Supply Current	ICC	VCC=3.3	-	190	250	mA
Backlight Supply Current	IB	-	-	60	-	mA
Backlight Supply Voltage	VBL	-	-	23.1	24.5	V
Backlight Lifetime		-	10,000	25,000	-	Hr

Optical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Viewing Angle – Top		Cr ≥ 10	-	60	-	°
Viewing Angle – Bottom		Cr ≥ 10	-	40	-	°
Viewing Angle – Left		Cr ≥ 10	-	60	-	°
Viewing Angle – Right		Cr ≥ 10	-	60	-	°
Contrast Ratio	Cr	-	150	250	-	
Luminance	Y_L	-	250	300	-	cd/m^2
Response Time (rise)	Tr	-	-	25	40	ms
Response Time (fall)	Tr	-	-	25	40	ms

Quality Information

Test Item	Content of Test	Test Condition	Note
High Temperature storage	Endurance test applying the high storage temperature for a long time.	+80°C , 200hrs	2
Low Temperature storage	Endurance test applying the low storage temperature for a long time.	-30°C , 200hrs	1,2
High Temperature Operation	Endurance test applying the electric stress (voltage & current) and the high thermal stress for a long time.	+70°C 200hrs	2
Low Temperature Operation	Endurance test applying the electric stress (voltage & current) and the low thermal stress for a long time.	-20°C , 200hrs	1,2
High Temperature / Humidity Operation	Endurance test applying the electric stress (voltage & current) and the high thermal with high humidity stress for a long time.	+60°C , 90% RH , 96hrs	1,2
Thermal Shock resistance	Endurance test applying the electric stress (voltage & current) during a cycle of low and high thermal stress.	-20°C,30min -> 25°C,5min -> 70°C,30min = 1 cycle 10 cycles	
Vibration test	Endurance test applying vibration to simulate transportation and use.	10-55Hz , 15mm amplitude. 60 sec in each of 3 directions X,Y,Z For 15 minutes	3
Static electricity test	Endurance test applying electric static discharge.	VS=800V, RS=1.5kΩ, CS=100pF One time	

Note 1: No condensation to be observed.
Note 2: Conducted after 4 hours of storage at 25°C, 0%RH.
Note 3: Test performed on product itself, not inside a container.

Precautions for using LCDs/LCMs

See Precautions at www.newhavendisplay.com/specs/precautions.pdf

Warranty Information and Terms & Conditions

http://www.newhavendisplay.com/index.php?main_page=terms