

NHD-4.3-480272MF-ATXI#-1

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

NHD-	Newhaven Display
4.3-	4.3" Diagonal
480272-	480xRGBx272 pixels
MF-	Model
A-	Built-in driver / NO Controller
T-	White LED backlight
X-	TFT
I-	Center viewing angle, Wide Temp
#-1	RoHS Compliant

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Document Revision History

Revision	Date	Description	Changed by
0	7/8/2009	Initial Release	CL
1	7/29/2009	Updated Touch panel information	CL
2	7/29/2009	MECHANICAL DRAWING UPDATE – change FFC shape	BE
3	8/5/2009	Increase LEDs from 7 to 12	CL
4	7/6/2010	Electrical characteristics updated	BE
5	10/15/2010	For better reliability, VDD min = 3.0V	BE

Functions and Features

- 480xRGBx272 resolution, up to 16.7M colors
- 12-LED backlight
- 24 bit RGB interface
- 4-wire resistive touch panel available

Pin Description

Pin No.	Symbol	External Connection	Function Description
1	LED-	LED Power Supply	Ground for Backlight
2	LED+	LED Power Supply	Backlight Power Supply (32mA @ 20~22V)
3	GND	Power Supply	Ground
4	VDD	Power Supply	Power supply for LCD and logic (3.3V)
5-12	[R0-R7]	MPU	Red Data Signals
13-20	[G0-G7]	MPU	Green Data Signals
21-28	[B0-B7]	MPU	Blue Data Signals
29	GND	Power Supply	Ground
30	PCLK	MPU	Data sample Clock signal
31	DISP	MPU	Display ON/OFF signal
32	HSYNC	MPU	Line synchronization signal
33	VSYNC	MPU	Frame synchronization signal
34	DE	MPU	Data Enable signal
35	AVDD	-	No Connect
36	GND	Power Supply	Ground
37	XR	-	No Connect
38	YD	-	No Connect
39	XL	-	No Connect
40	YU	-	No Connect

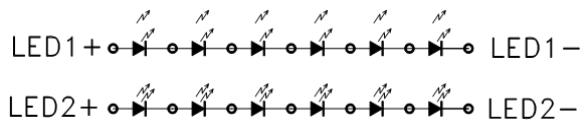
Recommended LCD connector: 0.5mm pitch 40-Conductor FFC. Molex p/n: 54132-4097

Backlight connector: on LCD connector **Mates with:** ---

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	VDD		3.0	3.3	3.6	V
Power Dissipation (White screen)		fV=60Hz	-	80	95	mW
Power Dissipation (Black screen)		fV=60Hz	-	85	100	mW
VSYNC frequency	fV		-	60	70	Hz
HSYNC frequency	fH		-	17.26	-	kHz
PCLK frequency	fPCLK		-	9.2	-	MHz
Backlight Supply Voltage	VLED		20	-	22	V
Backlight Supply Current	ILED	VLED=21.0V	-	32	40	mA
Backlight Power Consumption	PBL		-	650	-	mW

Backlight diagram:



Optical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Viewing Angle –Top		Cr ≥10	-	15	-	°
Viewing Angle –Bottom		Cr ≥10	-	35	-	°
Viewing Angle – Left		Cr ≥ 10	-	45	-	°
Viewing Angle – Right		Cr ≥ 10	-	45	-	°
Contrast Ratio	Cr		-	400	-	
Luminance	YL		380	-	480	cd/m ²
Response Time (rise)	Tr	-	-	5	15	ms
Response Time (fall)	Tr	-	-	15	30	ms

Driver Information

Built-in HX8257-A.

For specific timing and color information, please download specification at http://www.newhavendisplay.com/app_notes/HX8257.pdf

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