Next Vision Display
Brighten The Future

NEXT VISION DISPLAY

SPECIFICATION

CUSTOMER : _____

MODULE NO.: NT043-R002ME

Version	V.01
Engineer	
Date	05/12/2023

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Customer:
Approved by

NEXT VISION DISPLAY CO., LTD.

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General Description

This is a Color TFT LCD which has a **4.3** inch diagonally measured active display area with 480(RGB)X272 resolution. Each pixel is divided into Red, Green and Blue sub-pixels and dots which are arranged in vertical stripes. LCD color is determined with 262,000 colors signal for each pixel.

It is designed to apply the interface method that enables low power, high speed, and high contrast, intended to support applications where thin thickness, wide viewing angle and low power are critical factors and graphic displays are important.

General Features

Item	Display Panel	Remark
Display Mode	Normally Black	
Viewing Direction	ALL O'CLOCK	
Input Signals	RGB	
Outside Dimensions	105.5mm(W)*67.2mm(H)*3.0mm(T)	
Effective Area	-	
Active Area	95.04mm(W)×53.856mm(H)	
Number of Pixels	480×RGB×272Pixels	
Pixel Pitch	0.198mm(H)×0.198mm(W)	
Pixel Arrangement	RGB Vertical stripes	
Drive IC	NV3047	

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Absolute Maximum Ratings

The following are maximum values which, if exceeded may cause operation or damage to the unit.

ITEM	Symbol	Min.	Typ.	Max.	Unit	Remark
Power for Circuit Driving	VDD		3.2		V	
Power for Circuit Logic	VCI		3.2		V	
LC Operating Voltage *1)	Vop		3.3		V	
LED Forward Voltage	V_f	27	32	33	V	
LED Forward Current	Ir	-	20	-	mA	
LCD Luminance	B_P	-	350	-	cd/m^2	
Storage Humidity	H_{ST}	10	-	90	%RH	At 25±5℃
Storage Temperature	T_{ST}	-30	-	80	℃	
Operating Ambient Humidity	H_{OP}	10	-	90	%RH	
Operating Ambient temperature	T_{OP}	-30	-	80	℃	

Note:

*1) Liquid Crystal driving voltage.
Due to the characteristics of LC Material, this voltage vary with environmental temperature.

*2) Temp. >60℃, Absolute humidity shall be less than 90%RH at 60℃

*3) Temp. ≤60℃, 90%RH MAX.

Electrical Specification

Main Window Display

(Unless specified, the ambient temperature Ta=25℃)

Properties		Sym.	Min	Typ.	Max	Unit	Note
Power for Circuit Driving		VDD		3.2		V	Note
Power for Circuit Logic		VCI		3.2		V	Note
BLU Driving Logic		Vbat	-	-	-	V	
Logic Input Voltage	Low Voltage	VIL	0	-	0.2VDD	V	
	High Voltage	VIH	0.8VDD	-	VDD	V	
Logic Output Voltage	Low Voltage	VOL	0	-	0.1VDD	V	
	High Voltage	VOH	0.9VDD	-	VDD	V	
Power Consumption	White	P_w	T.B.D	T.B.D	T.B.D	mW	
	Black	P_b	T.B.D	T.B.D	T.B.D	mW	
	Vertical Stripe	P_v	T.B.D	T.B.D	T.B.D	mW	

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Note:

The recommended operating conditions refer to a range in which operation of this product is guaranteed. Should this range is exceeded, the operation cannot be guaranteed even if the values may be without the absolute maximum ratings.
Accordingly, please make sure that the module is used within this range. And these current values are measured under the condition that all devices are stopped, each component is stable and logic signal is input.

Optical Specification

Item		Symbol	Condition	Min.	Typ.	Max.	Unit	Note
Transmittance (with Polarizer)		T (%)	Θ=0 Normal viewing angle	–	(6.6)	–	%	Measuring with normal polarizer, Reference Only Base on Vop=5.1V
Transmittance (without Polarizer)		T (%)		–	(23.45)	–	%	
Contrast Ratio		CR		640	800	–	–	(1)(2)
Response Time		$T_{R+}T_F$		–	30	40	msec	(1)(3)
Color Gamut	(%)			45	50	–	%	C-light
Color Chromaticity (CIE1931)	White	W_x		–	(0.320)	–	–	(1)(4) CF glass C-light
		W_y		–	(0.345)	–		
	Red	R_x		–	(0.629)	–	–	
		R_Y		–	(0.326)	–		
	Green	G_x		–	(0.337)	–	–	
		G_Y		–	(0.546)	–		
	Blue	B_x		–	(0.136)	–	–	
		B_Y		–	(0.143)	–		
Viewing Angle	Hor.	Θ_L	CR>10		80	–	–	(1)(4) Measuring with normal polarizer, Reference Only
		Θ_R			80	–		
	Ver.	Θ_U			80	–		
		Θ_D			80	–		
Optima View Direction		Free						(5)

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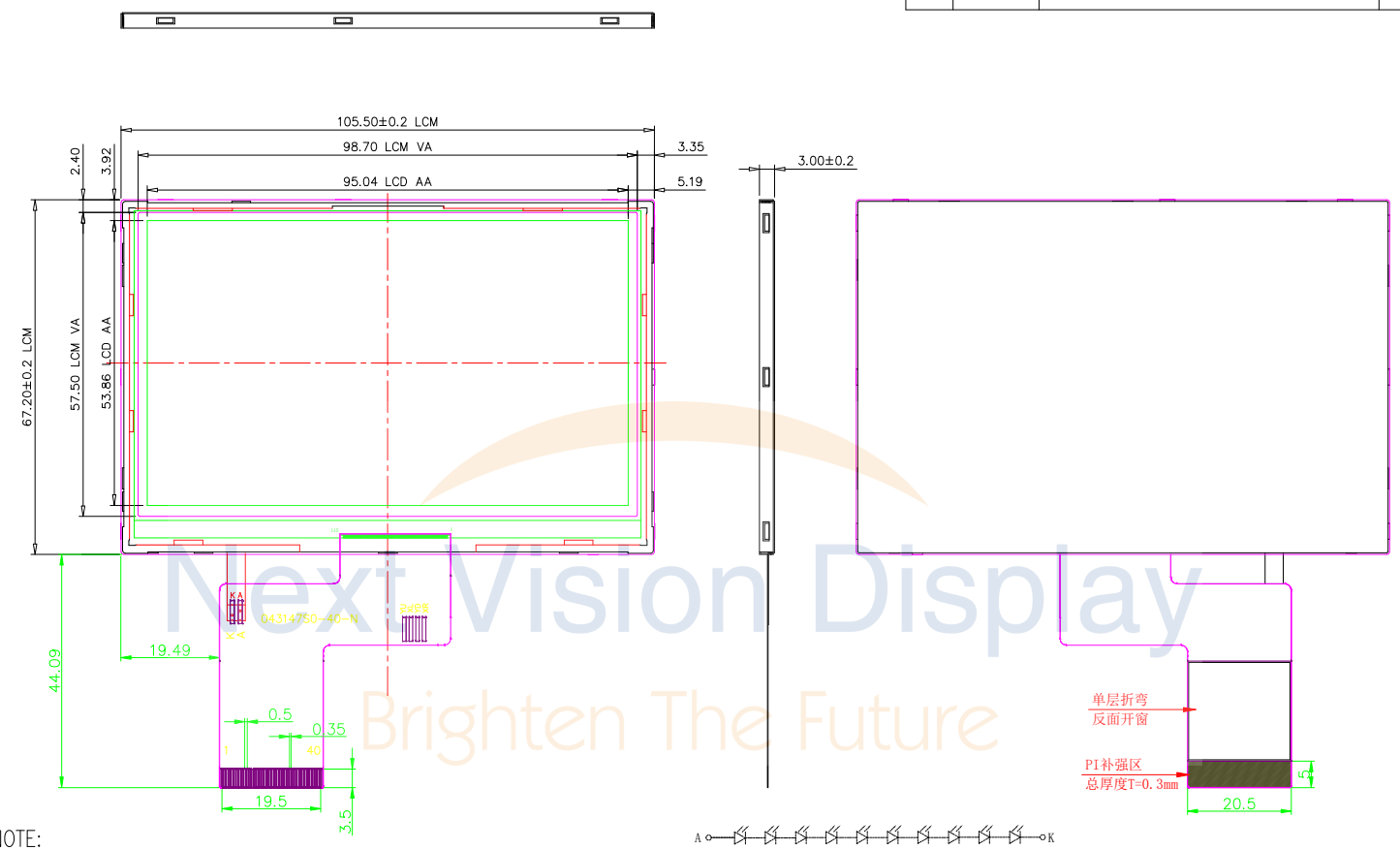
Pin Description

Pin NO.	Symbol	Description
1	LEDK	LED BACKLIGHT(CATHODE
2	LEDA	LED BACKLIGHT(ANODE
3	GND	GROUND
4	VCC	POWER SUPPLY
5	R0	RED DATA
6	R1	RED DATA
7	R2	RED DATA
8	R3	RED DATA
9	R4	RED DATA
10	R5	RED DATA
11	R6	RED DATA
12	R7	RED DATA
13	G0	GREEN DATA
14	G1	GREEN DATA
15	G2	GREEN DATA
16	G3	GREEN DATA
17	G4	GREEN DATA
18	G5	GREEN DATA
19	G6	GREEN DATA
20	G7	GREEN DATA
21	B0	BLUE DATA
22	B1	BLUE DATA
23	B2	BLUE DATA
24	B3	BLUE DATA
25	B4	BLUE DATA
26	B5	BLUE DATA
27	B6	BLUE DATA
28	B7	BLUE DATA
29	GND	GROUND
30	CLK	CLOCK SIGNAL
31	DISP	DISPLAY ON/OFF
32	HSYNC	HORIZONTAL SYNC INPUT IN RGB MODE
33	VSYNC	VERTICAL SYNC INPUT IN RGB MODE
34	DEN	DATA ENABLE
35	NC	NC
36	GND	GROUND
37	XR(NC)	TOUCH PLANE PIN
38	YD(NC)	TOUCH PLANE PIN
39	XL(NC)	TOUCH PLANE PIN
40	YU(NC)	TOUCH PLANE PIN

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NO.	SIGNAL
1	LEDK
2	LEDA
3	GND
4	VCC
5	R0
6	R1
7	R2
8	R3
9	R4
10	R5
11	R6
12	R7
13	G0
14	G1
15	G2
16	G3
17	G4
18	G5
19	G6
20	G7
21	B0
22	B1
23	B2
24	B3
25	B4
26	B5
27	B6
28	B7
29	GND
30	CLK
31	DISP
32	Hsync
33	Vsync
34	DEN
35	NC
36	GND
37	XR(NC)
38	YD(NC)
39	XL(NC)
40	YU(NC)

REV.	ECN No.	DESCRIPTION	DRAWN BY



NOTE:

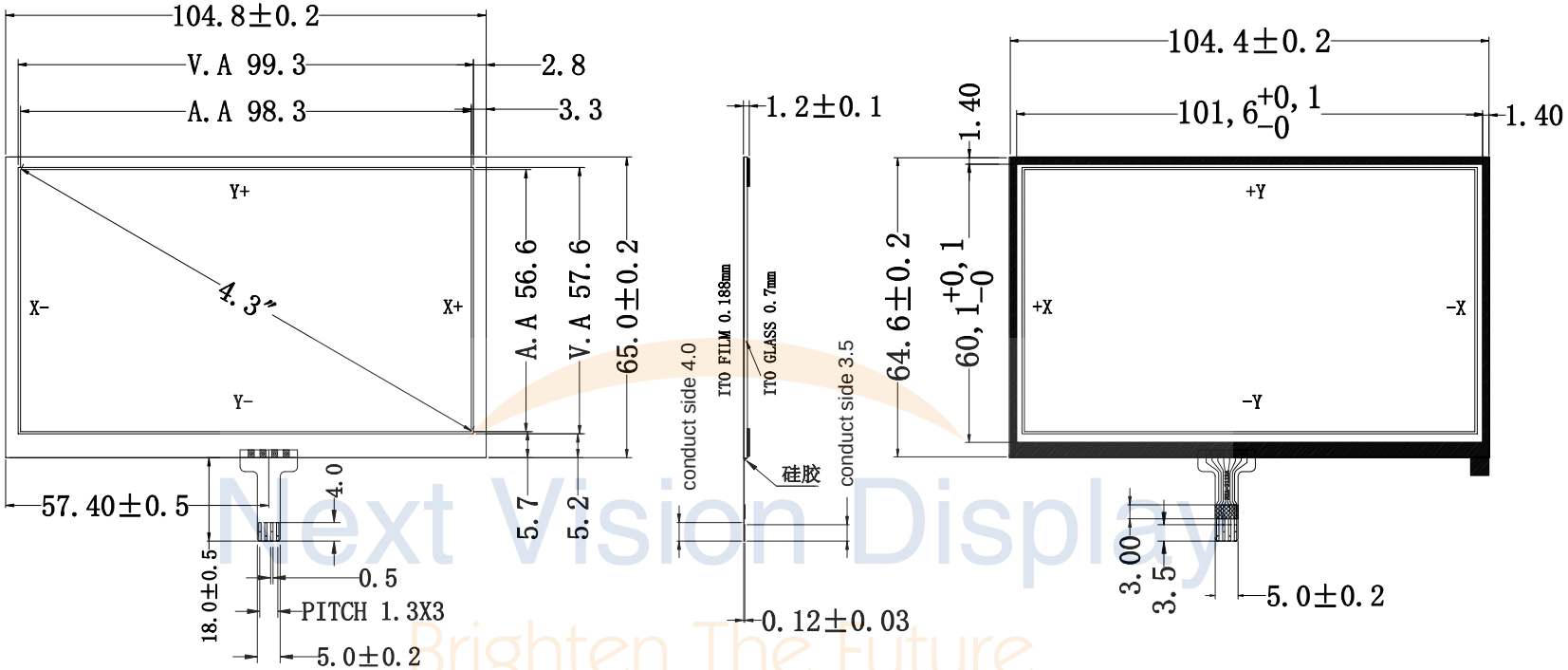
1. LCD TYPE : 4.3" TFT
2. DRIVER IC : NV3047
3. VIEING DIRECTION : ALL O'CLOCK
4. BACKLIGHT: WHITE LED 10 CHIPS Parallel
5. OPERATION TEMP : -30°C~80°C
6. STORAGE TEMP : -30°C~80°C
7. GENERAL TOLERANCE: ±0.2
8. Connector : FH19-40S-05SH(51)
9. * IS IMPORTANT DIMENSION

LED CIRCUIT DIAGRAM(20mA/32V)

B/L CIRCUIT DIAGRAM

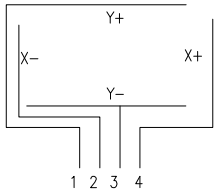
TOLERANCE		SCALE	N.T.S		Next Vision Display Brighten The Future		
.X	±	UNITS	mm				
.XX	±	MATERIAL		DRG DATE	2018/11/20	MODEL:	NT043-R002ME
∠	± 1°			DRG BY		TITLE:	480(RGB)X272 DOTSM
				CHK BY		DWG NO	P 1 OF 1
				APPROVED		P/N	VER. 01

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Technical parameters:
1.Structure:Film+glass+FPC
Film:Matt surface Anti Newton ring (0.188mm)
Glass:500 ohm/0.7mm
FPC: Pitch 1.3mm
Total Thickness:1.2mm (tolerance +/- 0.1mm)
2.Circuit Level: DC5V 1mA
3. Insulation resistance > 20M Ohm(DC 25V)
4. Linearity < 1.5%
5. Transparency Rate> 80%
6. Operation Force: 50-120g
7. Lift time: 1million Times
8. Working temp.:
9. Storage temp.:
10. X: 200-900 Ohm; Y:200-900 Ohm
11. Unmarked tolereance: +/- 0.5mm



PIN	OUT
1	Y+
2	X-
3	Y-
4	X+

SCALE: 1 : 1 NOT TO SCALE			Next Vision Display Brighten The Future
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GENERAL TOL. 0.50mm		UNITS MM	
APPROVALS		DATE	MODEL NUMBER : NT043-R002ME / CUSTOMER P/N :
APP	Mychan	2014/04/18	
CHK	Amorll	2014/04/18	PROJECTION / DATE: 2014/04/18
DWN	Amorll	2014/04/18	