

1.38 inch Round TFT LCD



PROFILE

- Type: IPS TFT/Normally Black
- Display format: 240xRGBx240
- Controller IC: NV3002A
- Interface: 4-wire SPI
- Input Voltage: 2.5~3.6V

FEATURES

NO.	ITEM	SPECIFICATION	UNIT
1	Panel Size	1.38(round)	inch
2	Outline Dimension	37.54(W) x 39.12(H) x 1.65(T) (Excluding FPC)	mm
3	Active Area	Φ35.14	mm
4	Number of Pixels	240(H) × 3(RGB) × 240(V)	pixels
5	Dot pitch	0.0488(H) x 0.1464(V)	mm
6	Pixel arrangement	RGB vertical stripe	-
7	Display Mode	Normally Black	-
8	Number of Colors	262K	-
9	Viewing Direction	ALL	-
10	Interface	4-wire SPI	-
11	Backlight	White LED	-
12	LCM Brightness	600(Typ.)	cd/m ²
13	Contrast Ratio	1200:1(Typ.)	-
14	Drive IC	NV3002A	-
15	Operation Temperature	-20~70	°C
16	Storage Temperature	-30~80	°C

MECHANICAL DATA		
ITEM	STANDARD VALUE	UNIT
Module Dimension	37.54 x 39.12	mm
Active Area	Φ35.14	
Height	1.65	

ABSOLUTE MAXIMUM RATINGS					
ITEM	SYMBOL	MIN	TYP	MAX	UNIT
Supply Voltage(I/O)	VDD	-0.3	-	4.6	V
Analog Supply Voltage	VDDIO	-0.3	-	4.6	
Logic Input Voltage	VIN	-0.3	-	VDD+0.3	

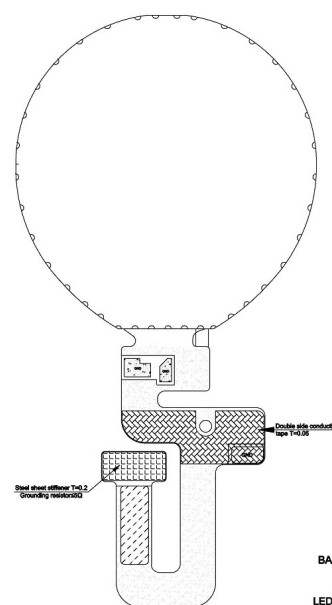
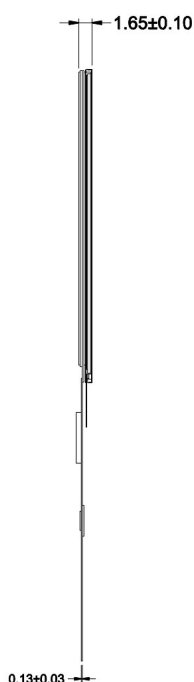
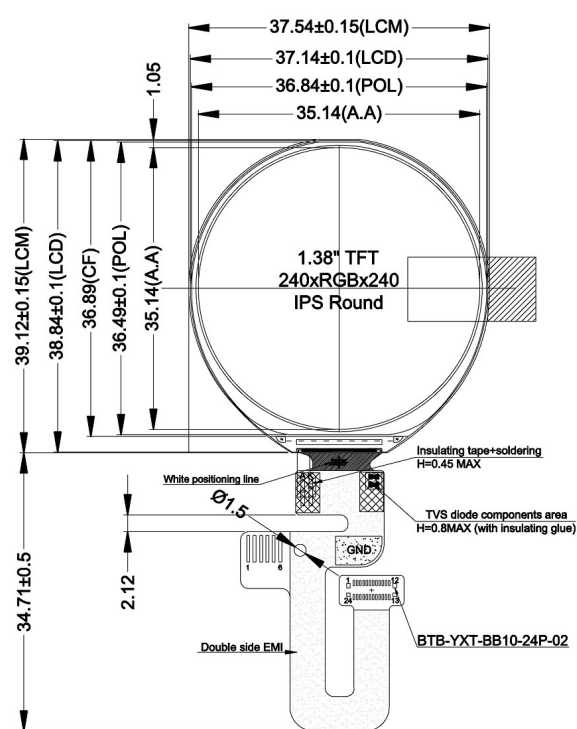
ELECTRICAL CHARACTERISTICS						
ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN	TYP	MAX	
System Voltage	VDD		2.5	2.8	3.6	V
Interface Operation Voltage	VDDIO		1.65	1.8	3.6	
Gate Driver High Voltage	VGH		10.8	-	13.8	
Gate Driver Low Voltage	VGL		-8.9	-	-12.2	
Driver Supply Voltage	-	VGH-VGL	19.7	-	26	
Logic-High Input Voltage	VIH		0.7xVDDIO		VDDIO	
Logic-Low Input Voltage	VIL		DGND		0.3xVDDIO	
Logic-High Output Voltage	VOH		0.8xVDDIO		VDDI	
Logic-Low Output Voltage	VOL		DGND		0.2xVDDIO	
Voltage for LED backlight	VLED		-	3.2	-	
Operating Current for VDD	IDD	VDD=2.8V	-	-	-	mA
Current for LED backlight	ILED	3 LEDs	-	60	-	
Current of Sleep In Mode(VDD)	Idd		-	-	-	μA
Current of Sleep In Mode(VDDIO)	Iddio		-	-	-	

For detailed information, please refer to the “Product Numbering System” document.

PIN DESCRIPTION		
NO.	SYMBOL	FUNCTION
1	LCD_RESET	Chip reset signal
2	GND	Power Ground
3	LCD_TE	Tearing effect signal is used to synchronize MCU to frame memory
4	LCD_CS	Chip selection signal
5	LCD_CLK	Pixel clock signal in RGB I/F
6	NC	No connection
7	LCD_SDA	Serial input/output data
8	GND	Power Ground
9	IM1(NC)	No connection
10	IM0(NC)	No connection
11	LEDA	Backlight anode
12	LEDA	Backlight anode

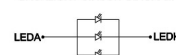
13	LEDK	Backlight cathode
14	LEDK	Backlight cathode
15	VDD	Analog Power Supply for LCM
16	TP_VDD	Analog Power Supply for TP
17	TP_INT	TP_External interrupt to the host.
18	TP_RST	TP Reset
19	TP_SDA	TP serial input/output data
20	TP_SCL	TP serial input CLK
21	GND	Power Ground
22	NC	No connection
23	NC	No connection
24	LCD_RS	Data is regarded as a command when SCL is low Data is regarded as a parameter or data when SCL is high

DIMENSIONS in millimeters



FPC unfolded for shipment

BACKLIGHT CIRCUIT DIAGRAM



BACKLIGHT DRIVING CONDITION:
Vf=2.8~3.2V If=60mA

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