

1. General Description

1.1 Description

1.28-inch display 240RGBX240 dot-matrix TFT LCD module. This module is composed of a TFT LCD Panel, driver ICs, FPC and a Backlight unit.

1.2 Features

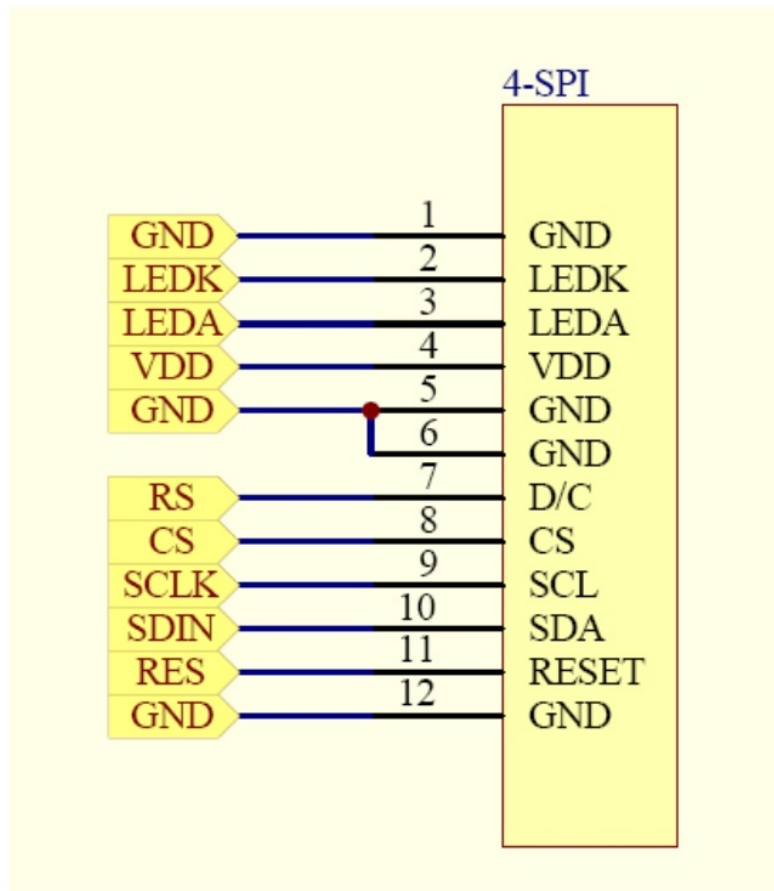
NO.	Item	Contents	Unit
1	LCD Size	1.28	inch
2	Display Mode	Normally black	-
3	Resolution	240(H)RGB x240(V)	pixels
4	Pixel pitch	0.135(H) x 0.135(V)	mm
5	Active area	Ø32.4	mm
6	Module size	35.6(H) x 37.74(V) x1.55 (D)	mm
7	Pixel arrangement	RGB Vertical stripe	-
8	Interface	4 Line SPI	-
9	Display Colors	262K	colors
10	Drive IC	GC9A01	-
11	Luminance(cd/m2)	350 (TYP)	Cd/m2
12	Viewing Direction	All View	Best image
13	Backlight	2 White LED Parallel	-
14	Operating Temp.	-20°C~ + 70°C	°C
15	Storage Temp.	-30°C~+ 80°C	°C
16	Weight	3.2	g

3. Pin Definition

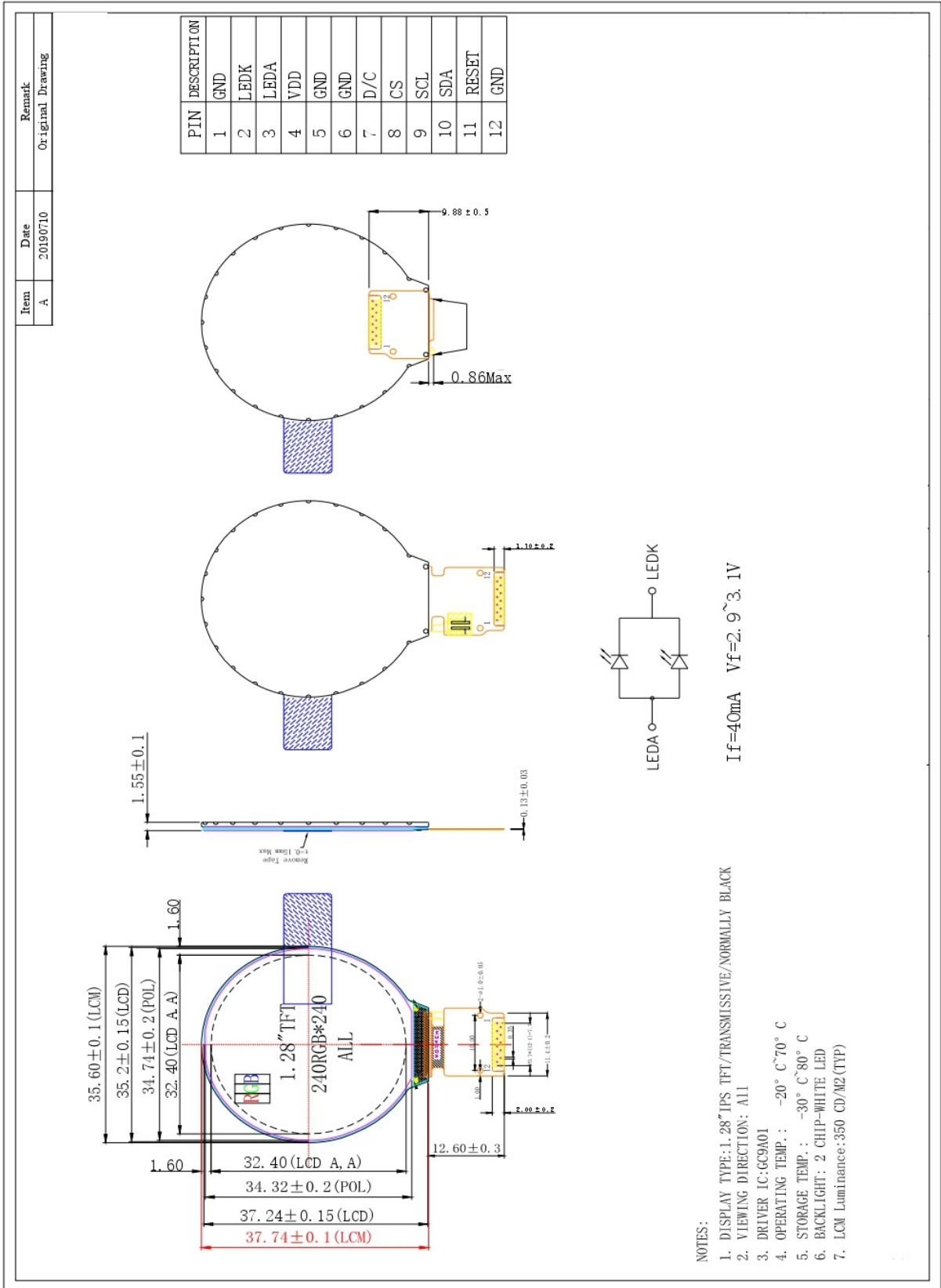
FPC Connector is used for the module electronics interface.

NO.	Symbol	Description
1	GND	Power Ground
2	LEDK	LED Cathode
3	LEDA	LED Anode
4	VDD	Power Supply for Analog
5	GND	Power Ground
6	GND	Power Ground
7	D/C	Display data/command selection pin in 4-line serial interface.
8	CS	Chip selection pin ;Low enable ,high disable.
9	SCL	This pin is used to be serial interface clock
10	SDA	SPI interface input/output pin . the data is latched on the rising edge of the SCL signal.
11	RESET	This signal will reset the device and it must be applied to properly initialize the chip . Signal is active low.
12	GND	Power Ground

Note:



Mechanical Drawing



Electrical Characteristics

1 Absolute Maximum Ratings

Parameter	Symbol	Min	MAX	Unit	Notes
Supply Voltage (I/O)	VDD	-0.3	4.6	V	
Analog Supply Voltage	VDDIO	-0.3	4.6	V	
Logic Input Voltage	VIN	-0.3	VDDIO+0.3	V	
Operation Temperature	Top	-20	70	°C	
Storage Temperature	Tst	-30	80	°C	

2 Operating Conditions

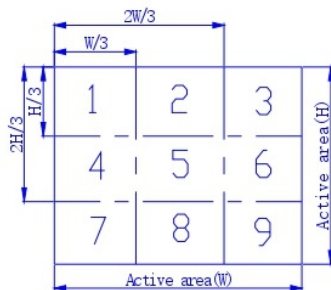
Parameter	Symbol	Min	TYP	MAX	Unit	Notes
System Voltage	VDD	2.5	2.8	3.3	V	
Gate Driver High Voltage	VGH	12	-	13	V	
Gate Driver Low Voltage	VGL	-11	-	-8	V	
Operating Current for V _{DD}	I _{DD}	-	8.5	10.5	mA	
Sleep_In Mode VDD	I _{dd}	-	15	30	uA	
Sleep_In Mode VDDIO	I _{ddio}	-	5	10	uA	

3 Backlight Unit

Parameter	Symbol	Min	TYP	MAX	Unit	Notes
Voltage for LED backlight	VLED	2.9	3.0	3.1	V	
Current for LED backlight	ILED	-	40	60	mA	2 LED
Power Consumption	Pbl	-	120	186	mW	1
Brightness	L _{br}	300	350	-	cd/m ²	2
LED Life time	-	20000	-	-	hr	3

Note:

1. Where ILED =40mA , VLED=3.0V , Pbl= ILED x VLED
2. Uniform measure condition:
 - a: Measure 9 point , Measure location is show below:
 - b: Uniform=(Min brightness/Max brightness)x100%
 - c: Best Contrast.



3. The environmental conducted under ambient air flow ,at Ta=25±2°C,60%RH±5%