

深 圳 市 金 逸 晨 电 子 有 限 公 司

LCD MODULE

MODULE NO. :

GMT024-8pinSPI_LCM

Customer:

Approved By(核准) :

深圳市金逸晨电子有限公司

Approved By(核准) :

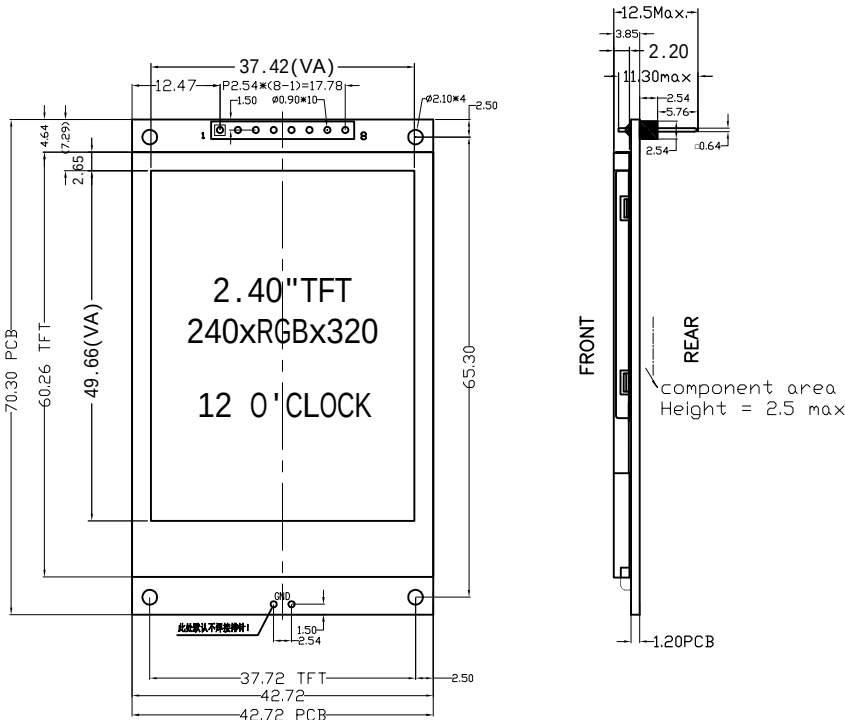
Checked By(审核) :

Prepared By(编写) :

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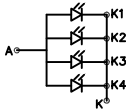
VER.	REVISED RECORD	DATA
V1.0	第一次发行 (PCBV1.1)	2021-11-26



Notes:

1. Display Type:TFT-LCD
2. Viewing Direction:12:00
3. Main LCD Drive IC:ST7789V Or Compatible
4. Polarizer Mode:Transmissive/Positive
5. Drive Method:1/240 Duty
6. Vdda:2.8V Typical;vddio:2.8V Typical
7. Backlight:White Led-4chip(15mA/LED)
8. Operating Temp:-20° C~ 70° C
9. Storage Temp:-30° C~ 80° C
- 10.General Tolerance: ±0.2
- 11.Requirements On Environmental Protection: RoHS
- 12.Interface:SPI

Backlight circuit:
15mA*4, 3.2V DC



PIN	DESCRIPTION
1	GND
2	VCC
3	SCL
4	SDA
5	RST
6	DC
7	CS
8	BL

SHEET: 1 of 1	
APPROVALS	DATE
DWN	ZJP 2021-11-3
CHK	
APP	

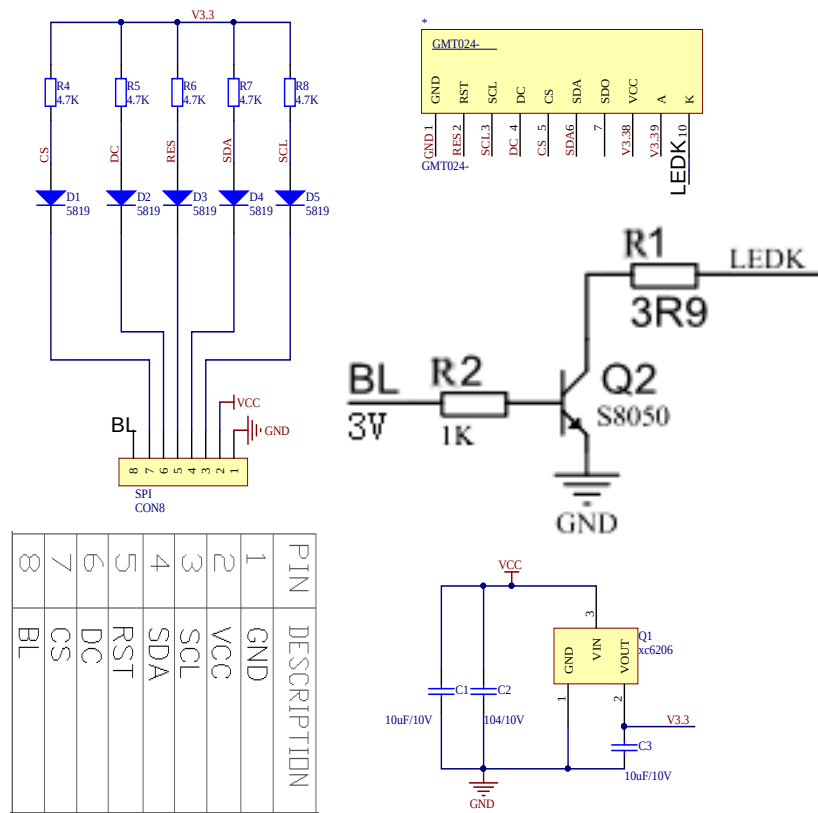
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MODEL NUMBER :
GMT024-8p10p-SPI_LCM

SCALE:
Unspecified TOL:± 0.1
DO NOT SCALE THIS DRAWING.

UNITS:
MM

4. 原理图:



注意：电路及元件值仅作参考

5. 引脚说明:

Pin no.	Symbol	Function
1	GND	电源负极
2	VCC	电源正极
3	SCL	时钟
4	SDA	数据
5	RST	复位
6	DC	命令/数据
7	CS	片选

6. 电气特性

6-1 DC 电气特性

6-1.1. ABSOLUTE MAXIMUM RATINGS

(T_a=+25°C)

Item		Symbol	Values		Unit	Remark
			Min.	Max.		
TFT Module	I/O Circuit Supply Voltage	VDD	-0.3	4.6	V	Note 1
	Analog/Logic Supply Voltage	VCI	-0.3	4.6	V	Note 1
Backlight Unit	Current	I _B	-	120	mA	Note 2
	Power Consumption	P _{BL}	-	480	mW	Note 2

Note1: Permanent damage to the device may occur if maximum values are exceeded or reverse voltage is applied.

6-1.2. ELECTRICAL CHARACTERISTICS

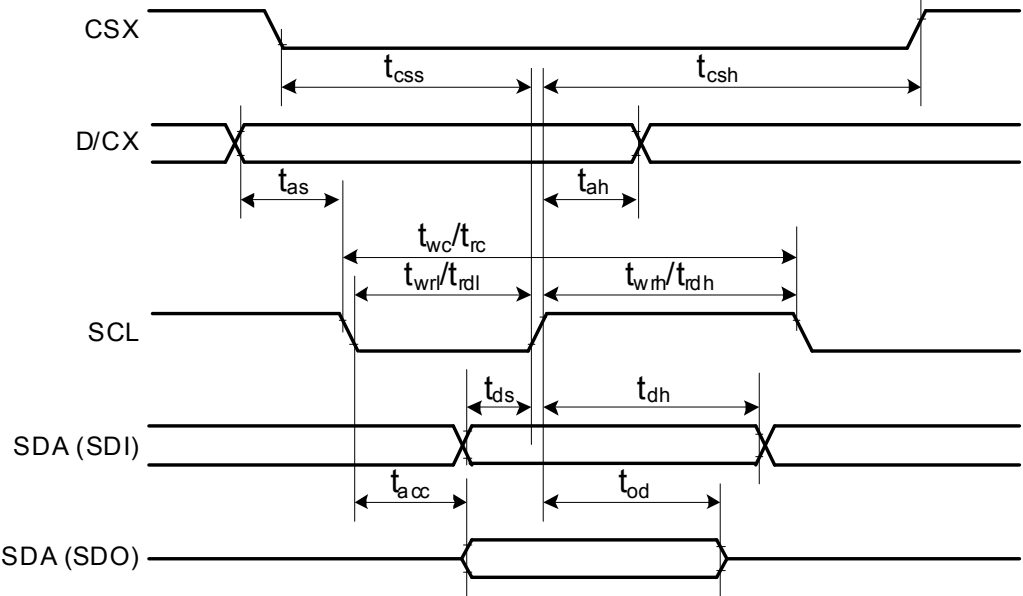
(T_a=+25°C, VCI=+2.8V)

Item	Symbol	Values			Unit	Remark
		Min.	Typ.	Max.		
Logic Supply Voltage	VDD	1.65	2.8	3.3	V	Ta=25°C
Analog Supply Voltage	VCI	2.6	2.8	3.3	V	
Input High Voltage	V _{IH}	0.7VDD	-	VDD	V	
Input Low Voltage	V _{IL}	0		0.3VDD	V	
Output High Voltage	V _{OH}	0.8VDD	-	VDD	V	
Output Low Voltage	V _{OL}	0	-	0.2VDD	V	
Frame Frequency	f _{FRAME}	-	65	-	Hz	

Note: To prevent IC latch up or DC operation in LCD panel, the power on/off sequence should follow the driver IC specification.

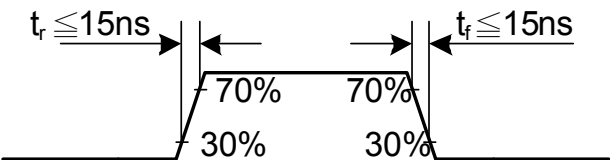
6-2 AC电气特性

Display Serial Interface Timing Characteristics (4-line SPI system)



Signal	Symbol	Parameter	min	max	Unit	Description
CSX	tcss	Chip select time (Write)	40	-	ns	
	tcsch	Chip select hold time (Read)	40	-	ns	
SCL	twc	Serial clock cycle (Write)	100	-	ns	
	twrh	SCL "H" pulse width (Write)	40	-	ns	
	twrl	SCL "L" pulse width (Write)	40	-	ns	
	trc	Serial clock cycle (Read)	150	-	ns	
	trdh	SCL "H" pulse width (Read)	60	-	ns	
	trdl	SCL "L" pulse width (Read)	60	-	ns	
D/CX	tas	D/CX setup time	10	-		
	tah	D/CX hold time (Write / Read)	10	-		
SDA / SDI (Input)	tds	Data setup time (Write)	30	-	ns	
	tdh	Data hold time (Write)	30	-	ns	
SDA / SDO (Output)	tacc	Access time (Read)	10	-	ns	For maximum CL=30pF
	tod	Output disable time (Read)	10	50	ns	For minimum CL=8pF

Note: Ta = 25 °C, VDDI=1.65V to 3.3V, VCI=2.5V to 3.3V, AGND=VSS=0V



7. 指令表 COMMAND TABLE

参阅 (ST7789 IC资料) :

COMMAND(Page156~Page312)