

深圳市金逸晨电子有限公司

LCD MODULE

MODULE NO. :

GME64128-11*SERIES*

Customer:

Approved by:

深圳市金逸晨电子有限公司

Approved by

Checked by

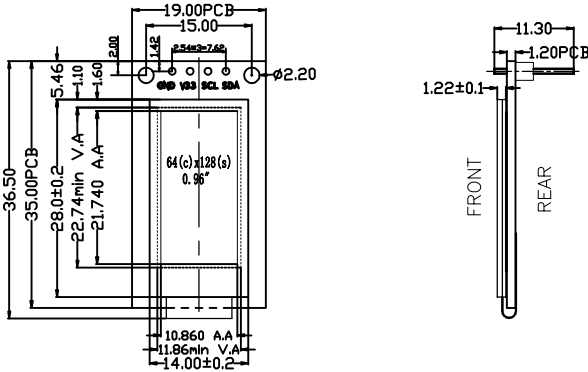
Prepared by

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VER.	REVISED RECORD	DATA
V1.0	第一次发行	2019-09-26
V2.0	PCB, VER3.2	2020-01-10

1. 外形图



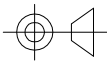
2. 功能&特性

- 2-1. 点阵: 64X128 Dots
 - 2-2. OLED模式: 正性
 - 2-3. 驱动方式: 1/64 Duty
 - 2-4. LCM工作电压 (VDD): 3.3V
 - 2-5. OLED驱动电压VLCD (VOP): 9.0V
 - 2-6. 工作温度: -40℃~70℃
 - 2-7. 储存温度: -40℃~85℃
 - 2-8. 连接方式/驱动IC: COG/SH1107
- 接口: IIC

3. 机械规格

- 3-1. 模块尺寸: 36.5mm(L)*19mm(W)*11.3Maxmm(T)
- 3-2. 可视区域(V/A): 22.74mm(L)*11.86mm(W)
- 3-3. 有效区域(A/A): 21.74mm(L)*10.86mm(W)
- 3-4. 点距离: 0.17mm(L)*0.17mm(W)
- 3-5. 点尺寸: 0.15mm(L)*0.15mm(W)

PIN	DESCRIPTION
1	GND
2	VCC
3	SCL
4	SDA



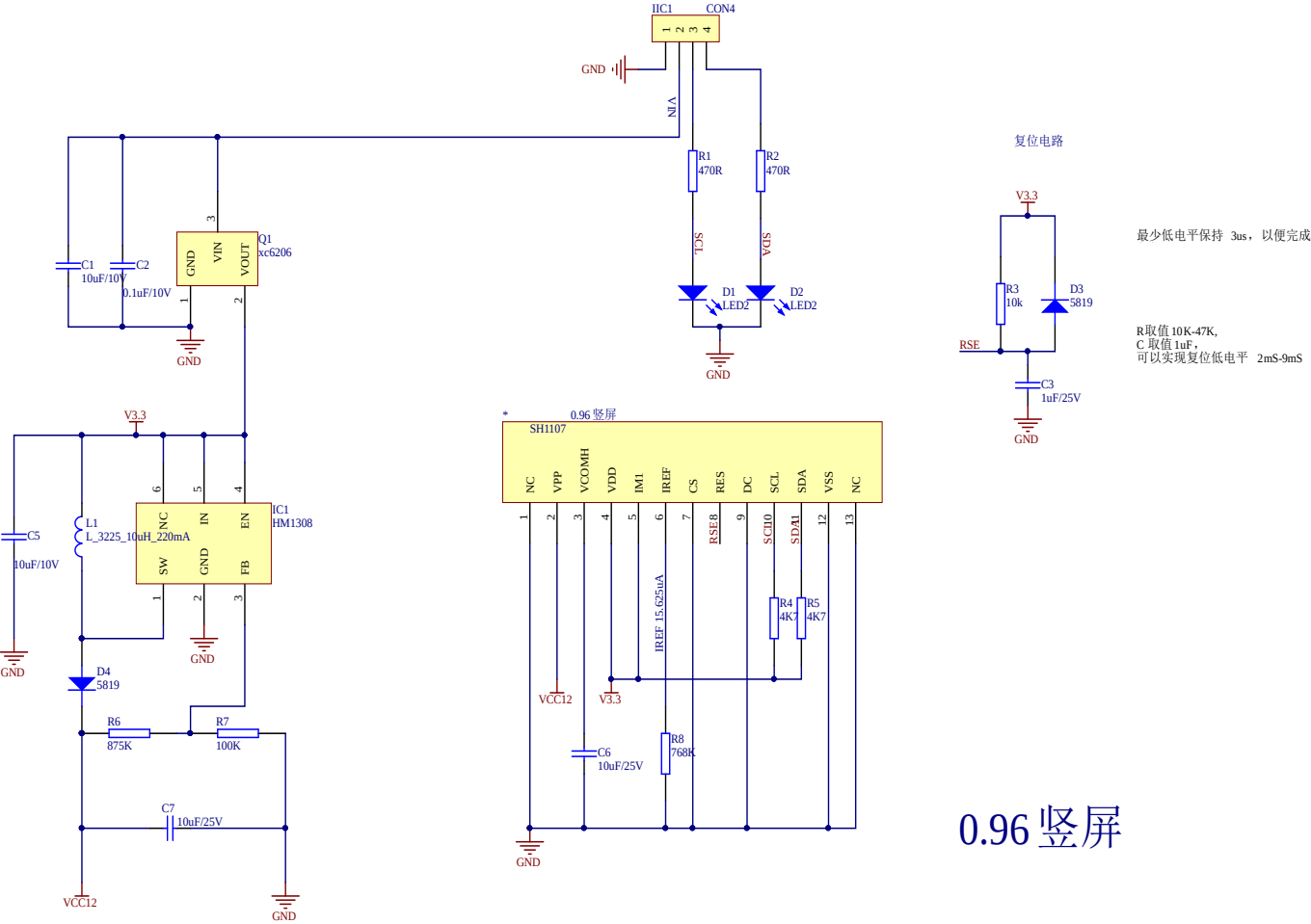
SHEET: 1 of 1

APPROVALS		DATE
DWN	ZJP	2019-09-26
CHK		
APP		

金逸晨电子有限公司

MODEL NUMBER :	SCALE:	UNITS:
GME64128-11_LCM	Unspecified TOL± 0.1	MM
DO NOT SCALE THIS DRAWING.		

4. 原理图:
原理图：



K
A

注意：电路及元件值仅作参考

5. 引脚说明：

Pin no.	Symbol	Function
1	GND	地
2	Vcc	模块供电电源正
3	SCL	时钟
4	SDA	数据

6. 电气特性

6-1 DC 电气特性

Characteristics	Symbol	Conditions	Min	Typ	Max	Unit
Supply Voltage for Logic	V _{DD}		2.6	2.8	3.5	V
Supply Voltage for Display	V _{PP}	Note 5	8.5	9.0	9.5	V
High Level Input	V _{IH}	I _{OUT} = 100 μA, 3.3MHz	0.8×V _{DD}	-	V _{DD}	V
Low Level Input	V _{IL}	I _{OUT} = 100 μA, 3.3MHz	0	-	0.2×V _{DD}	V
High Level Output	V _{OH}	I _{OUT} = 100 μA, 3.3MHz	0.8×V _{DD}	-	V _{DD}	V
Low Level Output	V _{OL}	I _{OUT} = 100 μA, 3.3MHz	0	-	0.2×V _{DD}	V
Operating Current for V _{CI}	I _{DD}		-	55	100	μA
Operating Current for V _{PP}	I _{PP}	Note 6	-	11	16	mA
Sleep Mode Current for V _{DD}	I _{DD, SLEEP}		-	0.1	5	μA
Sleep Mode Current for V _{PP}	I _{PP, SLEEP}		-	0.5	5	μA

Note 5 & 6: Brightness (L_{br}) and Supply Voltage for Display (V_{PP}) are subject to the change of the panel characteristics and the customer's request.

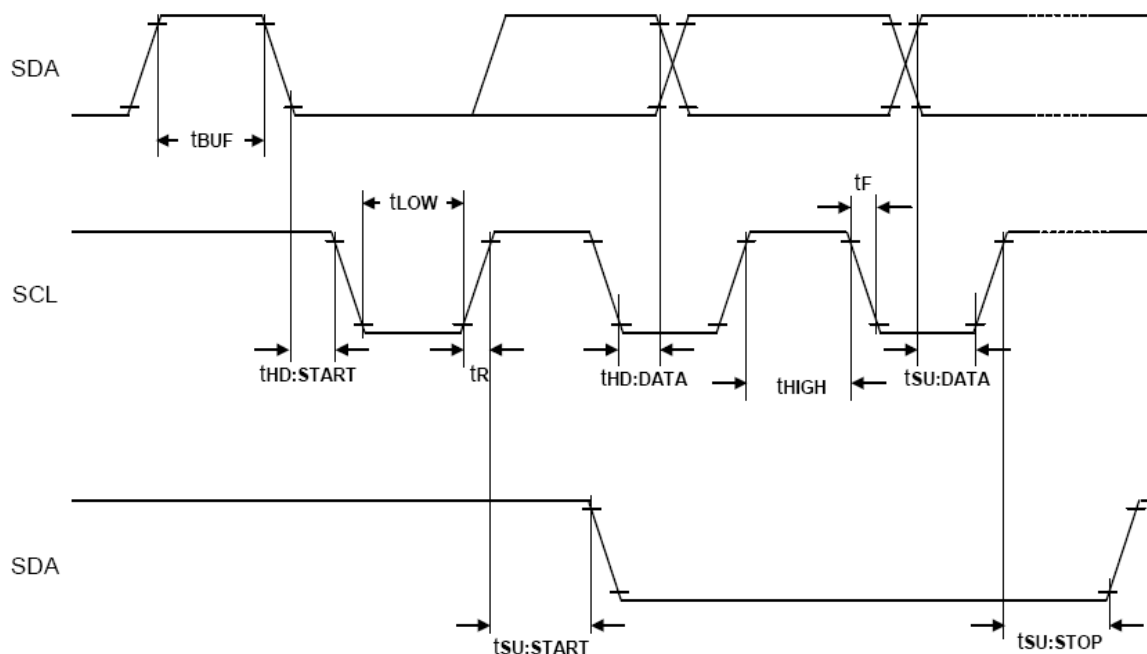
Note 6: VDD = 2.8V, VPP = 9.0V, 100% Display Area Turn on.

6-2 AC 电气特性

I2C Interface Timing Characteristics:

(V_{DD} = 1.65 - 3.5V, T_A = +25°C)

Symbol	Parameter	Min.	Typ.	Max.	Unit	Condition
f _{SCL}	SCL clock frequency	DC	-	400	kHz	
T _{LOW}	SCL clock Low pulse width	1.3	-	-	μs	
T _{HIGH}	SCL clock H pulse width	0.6	-	-	μs	
T _{SU:DATA}	data setup time	100	-	-	ns	
T _{HD:DATA}	data hold time	0	-	0.9	μs	
T _R	SCL, SDA rise time	20+0.1Cb	-	300	ns	
T _F	SCL, SDA fall time	20+0.1Cb	-	300	ns	
C _b	Capacity load on each bus line	-	-	400	pF	
T _{SU:START}	Setup time for re-START	0.6	-	-	μs	
T _{HD:START}	START Hold time	0.6	-	-	μs	
T _{SU:STOP}	Setup time for STOP	0.6	-	-	μs	
T _{BUF}	Bus free times between STOP and START condition	1.3	-	-	μs	



7. 指令表

Command Table

Command	Code											Function
	A0	$\overline{RD}$	$\overline{WR}$	D7	D6	D5	D4	D3	D2	D1	D0	
1. Set Column Address 4 lower bits	0	1	0	0	0	0	0	Lower column address				Sets 4 lower bits of column address of display RAM in register. (POR = 00H)
2.Set Column Address 4 higher bits	0	1	0	0	0	0	1	0	Higher column address			Sets 4 higher bits of column address of display RAM in register. (POR = 10H)
3.Set memory addressing mode	0	1	0	0	0	1	0	0	0	0	D	D = 1, Vertical Addressing Mode D = 0, Page Addressing Mode (POR=20H)
4. The Contrast Control Mode Set Contrast Data Register Set	0	1	0	1	0	0	0	0	0	0	1	This command is to set Contrast Setting of the display. The chip has 256 contrast steps from 00 to FF. (POR = 80H)
	0	1	0	Contrast Data								
5. Set Segment Re-map (ADC)	0	1	0	1	0	1	0	0	0	0	ADC	The down (0) or up (1) rotation. (POR = A0H)
6. Set Multiplex Ration	0	1	0	1	0	1	0	1	0	0	0	This command switches multiplex mode to any multiplex ratio from 1 to 128. (POR = 7FH)
	0	1	0	-	Multiplex Ratio							
7. Set Entire Display OFF/ON	0	1	0	1	0	1	0	0	1	0	D	Selects normal display (0) or Entire Display ON (1). (POR = A4H)
8. Set Normal/ Reverse Display	0	1	0	1	0	1	0	0	1	1	D	Normal indication (0) when low, but reverse indication (1) when high. (POR = A6H)
9. Set display offset	0	1	0	1	1	0	1	0	0	1	1	This is a double byte command that specifies the mapping of display start line to one of COM0 -127. (POR = 00H)
	0	1	0	-	COMx							
10. DC-DC Control Mode Set DC-DC Setting Mode Set	0	1	0	1	0	1	0	1	1	0	1	This command is to control the DC-DC voltage DC-DC will be turned on when display on converter (1) or DC-DC OFF (0). (POR = 81H)
	0	1	0	1	0	0	0	F2	F1	F0	D	

Command Table (Continued)

Command	Code											Function
	A0	RD	WR	D7	D6	D5	D4	D3	D2	D1	D0	
11. Display OFF/ON	0	1	0	1	0	1	0	1	1	1	D	Turns on OLED panel (1) or turns off (0). (POR = AEH)
12. Set Page Address	0	1	0	1	0	1	1	Page Address				Specifies page address to load display RAM data to page address register. (POR = B0H)
13 Set Common Output Scan Direction	0	1	0	1	1	0	0	D	*	*	*	Scan from COM0 to COM [N - 1] (0) or Scan from COM [N -1] to COM0 (1). (POR = C0H)
14. Set Display Divide Ratio/Oscillator Frequency Mode Set Divide Ratio/Oscillator Frequency Data Set	0	1	0	1	1	0	1	0	1	0	1	This command is used to set the frequency of the internal display clocks. (POR = 50H)
	0	1	0	Oscillator Frequency				Divide Ratio				
15. Dis-charge / Pre-charge Period Mode Set Dis-charge /Pre-charge Period Data Set	0	1	0	1	1	0	1	1	0	0	1	This command is used to set the duration of the dis-charge and pre-charge period. (POR = 22H)
	0	1	0	Dis-charge Period				Pre-charge Period				
16. VCOM Deselect Level Mode Set VCOM Deselect Level Data Set	0	1	0	1	1	0	1	1	0	1	1	This command is to set the common pad output voltage level at deselect stage. (POR = 35H)
	0	1	0	VCOM = () ₁ X VREF)								
17. Set Display Start Line	0	1	0	1	1	0	1	1	1	0	0	Specify RAM display line for COM0.
	0	1	0	-	Start line							
18. Read-Modify-Write	0	1	0	1	1	1	0	0	0	0	0	Read-Modify-Write start.
19. End	0	1	0	1	1	1	0	1	1	1	0	Read-Modify-Write end.
20. NOP	0	1	0	1	1	1	0	0	0	1	1	Non-Operation Command
21 Write Display Data	1	1	0	Write RAM data								
22 Read ID	0	0	1	BUSY	ON/OFF	ID						
23. Read Display Data	1	0	1	Read RAM data								

Note: Do not use any other command, or the system malfunction may result.