



# Hunan Huayuan display technology CO.,LTD

## **GH240128-51UB**

### **STN DOTS LCD MODULE**

### **SPECIFICATION**

Standard code	Department	Rev No.
		A/0
Checked by	Written by	Date
		2015-06

1. **GENERAL SPECIFICATIONS**
2. **EXTERNAL DIMENSIONS**
3. **ELECTRICAL CHARACTERISTICS**
4. **ABSOLUTE MAXIMUM RATINGS**
5. **OPTICAL CHARACTERISTICS**
6. **INTERFACE DESCRIPTION**
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8. **RELIABILITY TEST**



**3、 ELECTRICAL CHARACTERISTICS**

Parameter	Symbol	Min	Type	Max	Unit
Supply voltage for logic	$V_{DD}-V_{SS}$	3.2	3.3	3.4	V
Supply Voltage for LCD Driving	$V_0-V_{SS}$	Ta=0	-	-	
		Ta=25	-	-16.3	
		Ta=50	-	-	
Input Voltage	$V_{IH}$	$0.8 V_{DD}$	-	$V_{DD} + 0.3$	
	$V_{IL}$	0	-	$0.2 V_{DD}$	
Supply Voltage for LED	$V_{LED}$	-	3.3	3.4	
Supply current	$I_{DD}$	-	-	10.0	mA
Supply Current for LED	$I_{LED}$	80	90	100	

**4、 ABSOLUTE MAXIMUM RATINGS**

Parameter	Symbol	Min	Max	Unit	Remark
Supply voltage for logic	VDD-VSS	-0.3	+5.0	V	
Supply Voltage for LCD Driving	$V_0 - V_{SS}$	-	-20.0		
Operating temperature	$T_{OP}$	-40	+70	°C	
Storage temperature	$T_{ST}$	-40	+70		

**5、 OPTICAL CHARACTERISTICS**

Item	Symbol	Condition	Typ	Unit	Remark
Viewing angle	$\varnothing f$	$C_R \geq 2$	40	Radian	$\varnothing f$
	$\varnothing b$		30		$\varnothing b$
	$\varnothing l$		30		$\varnothing l$
	$\varnothing r$		30		$\varnothing r$
Response time	$T_R$	$T_A = 25^\circ C$	120	ms	
	$T_F$		130		
Frame Frequency	$F_{RM}$		64	Hz	
Contrast ratio	$C_R$		6.0	-	

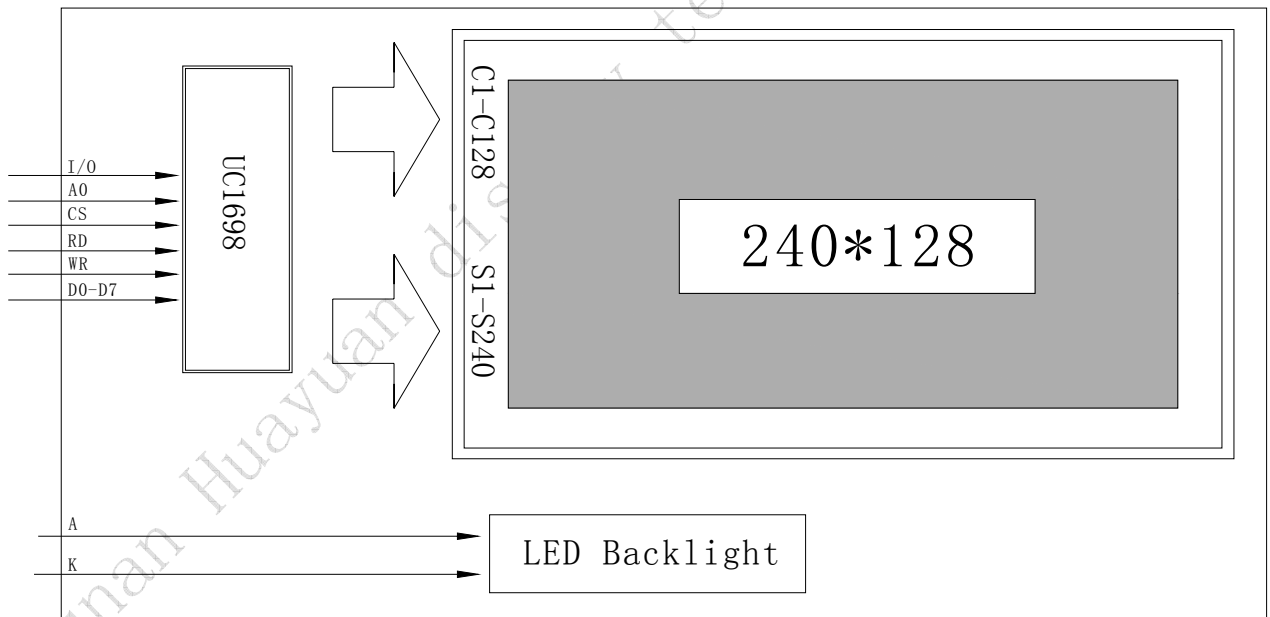
**6、 INTERFACE DESCRIPTION****CN1**

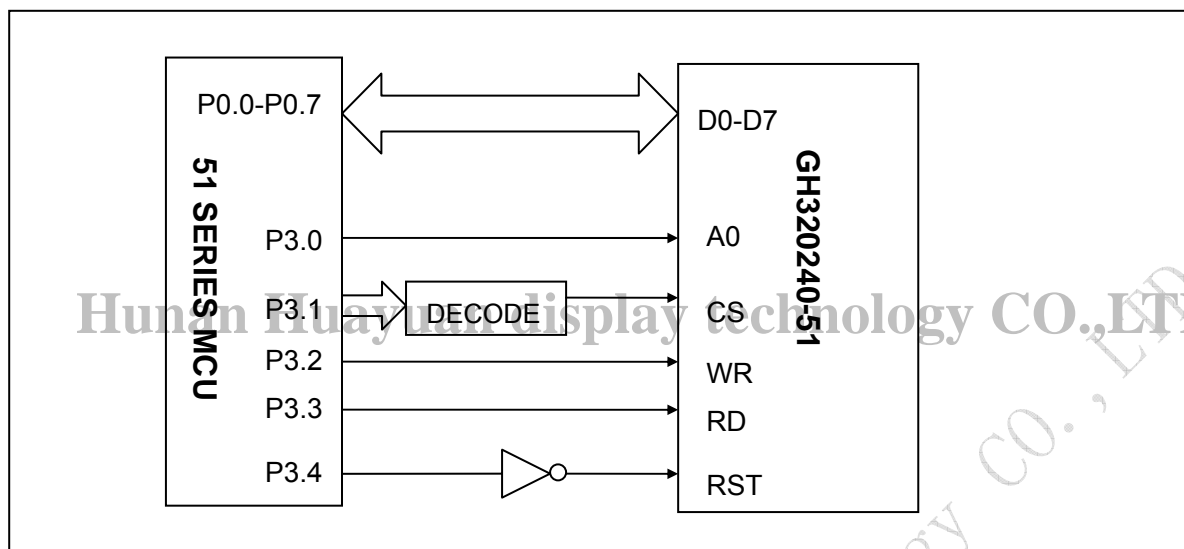
PIN	DESC	Function
1	K	K
2	A	A
3	NC	--
4	VSS	Ground
5-12	D7-D0	Data Bus
13	RST	Reset signal
14	NC	--
15	C/D	Command/Data Select or Register Select. 1: Command Write. 0: Data Write.
16	CS	Chip select
17	RD	Read Control
18	RW	Write Control.
19	NC	--
20	VDD	Power supply for Logic circuit and LCD
21-22	VSS	Ground

**CN2**

PIN	DESC	Function
1-2	VSS	Ground
3	VDD	Power supply for Logic circuit and LCD
4	NC	--
5	RW	Write Control。
6	RD	Read Control
7	CS	Chip Select
8	C/D	Command/Data Select or Register Select. 1: Command Write. 0: Data Write。
9	RST	Reset signal
10-17	D0-D7	Data Bus
18	VSS	Ground
19	NC	--
20	A	A
21	K	K

**7. BLOCK DIAGRAM**





### 8. RELIABILITY TEST

NO	Test Project	Test Condition	Remark
1	High temperature	70°C ± 2°C 24H	After testing, the appearance and electrical performance deficiencies should not happen.
2	Low temperature	-40°C ± 2°C 24H	
3	High temperature and humidity test	40°C ± 5°C × 90%RH/24H	
4	Hot and cool shock test	-10°C ± 2 (30min) → 25°C (5min) → 70°C ± 2 (30min) 10 cycles	
5	Vibration test	10Hz-50Hz-10Hz Amplitude 1.5mm X、Y、Z each 3H	

#### Remark:

1. Above test number is 2 piece.
2. Do moistureproof test, should use the pure water (10M Ω resistor ).
3. individual products caused by electrostatic discharge failure damage, if the products will be reset after the restore to the normal state as a good use.
- When the panel protective film LCM, Tear down the labels slowly (more than a second recommendation).
- 4 Please use the automatic switching menu (or scroll) test mode, test mode of operation.
- 5 Suggestions Use the menu to adjust the contrast model.