



深圳市华源显控技术股份有限公司

Shenzhen Huayuan Display Control Technique Co., Ltd.

深圳市芯云显控技术有限公司

Shenzhen Chiloud Display Control Co., Ltd

GH320240-3803

FSTN DOTS LCD MODULE

SPECIFICATION

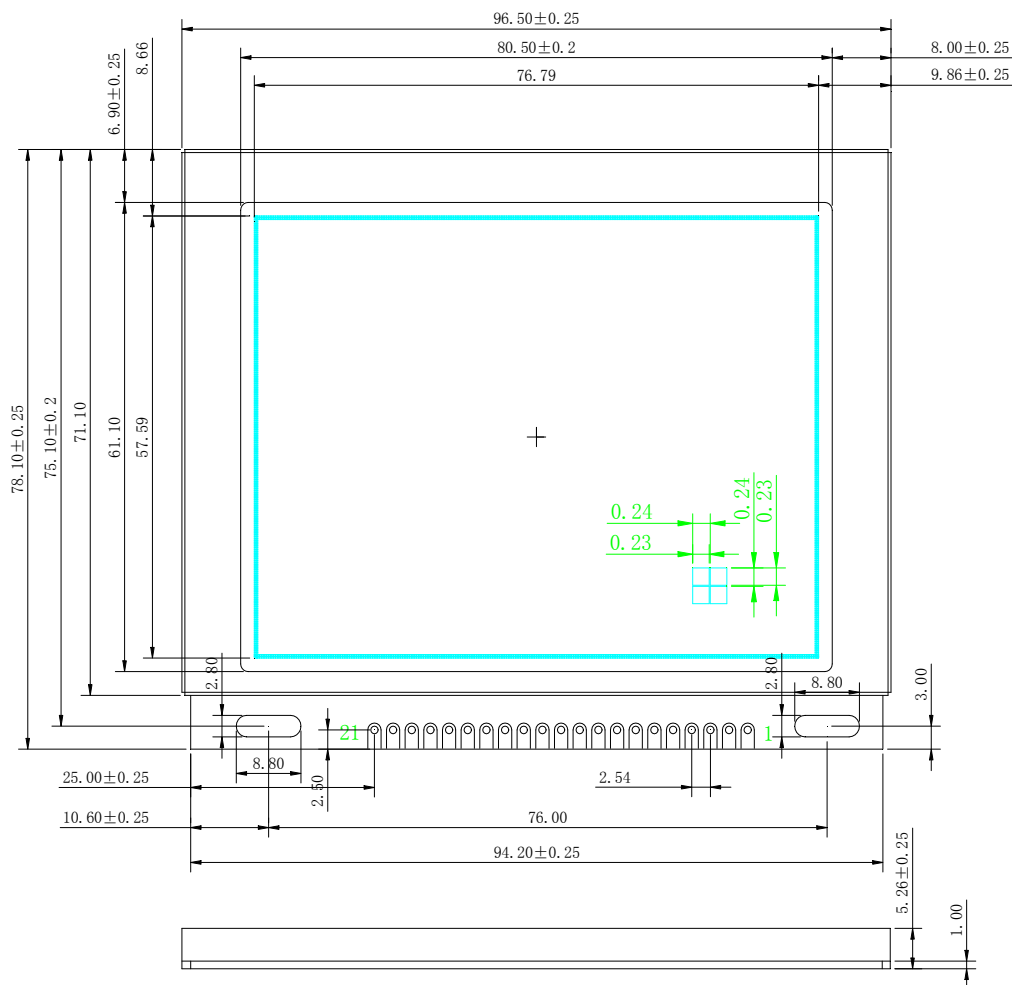
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- 1. GENERAL SPECIFICATIONS**
- 2. EXTERNAL DIMENSIONS**
- 3. ELECTRICAL CHARACTERISTICS**
- 4. ABSOLUTE MAXIMUM RATINGS**
- 5. OPTICAL CHARACTERISTICS**
- 6. INTERFACE DESCRIPTION**
- 7. BLOCK DIAGRAM**
- 8. TYPICAL APPLICATIONS**
- 9. RELIABILITY TEST**

1、 GENERAL SPECIFICATIONS

Screen size	FSTN 3.8"(Diagonal)
Display color	Display color: White Background color: Grey
Type	STN
Viewing angle	6'clock
Driver mode	1/240 DUTY 1/16 BIAS
Backlight	LED
Driver IC	NT7701.NT7709 or IST3025T, IST3026T compatible IC
Controller IC	RA8803 or compatible IC
Data bus	8 bit
Temperature range	Operation: -20 °C ---- +70°C Storage: -30 °C ---- +80°C
Number of Dots	320 x 240
Dot size	0.33 x 0.33mm
Dot pitch	0.36 x 0.36mm
Viewing area	80.5 x 61.1mm
Active area	76.79 x 57.59mm
Outline dimension	96.5 x 78.1x 5.57mm MAX

2、 EXTERNAL DIMENSIONS



3、 ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Min	Type	Max	Unit	
Supply voltage for logic	$V_{DD}-V_{SS}$	3.1	3.3	3.5	V	
LCD operating voltage	V_{LCD}	-	21.5	24		
Supply Voltage for LCD Driving	$V_{LCD}-V_{SS}$	Ta=-20 °C	-	21.0		-
		Ta=+25 °C	20.1	20.5		20.9
		Ta=+50 °C	-	20.0	-	
Supply Current	I_{DD}		20	30	mA	
Supply Current for LCD Driving	I_{EE}	-	-	5.0		
Supply Current for LED	I_{BL}	-	80	90		
Supply Voltage for LED	V_{BL}	-	3.3	3.5		V

4、 ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min	Max	Unit	Remark
Supply voltage for logic	$V_{DD}-V_{SS}$	-0.3	+7.0	V	
Supply Voltage for LCD Driving	$V_{LCD}-V_{SS}$	-	+24.0		
Operating temperature	T_{OP}	-20	+70	°C	
Storage temperature	T_{ST}	-30	+80		

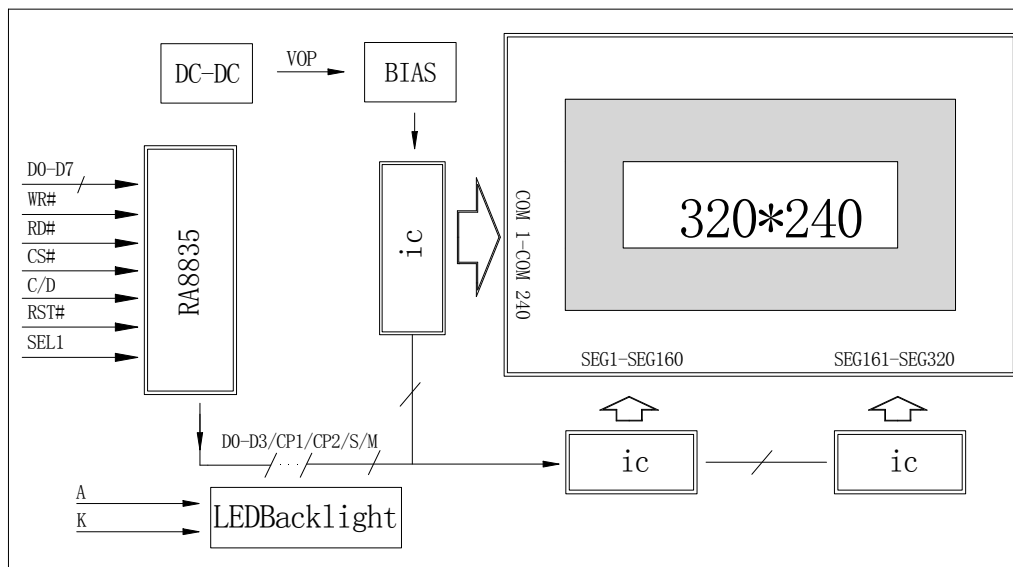
5、 OPTICAL CHARACTERISTICS

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	TA=25 °C	150	ms		
	T_F		250			
Frame Frequency	F_{RM}			70	Hz	
Contrast ratio	C_R			6.0	-	

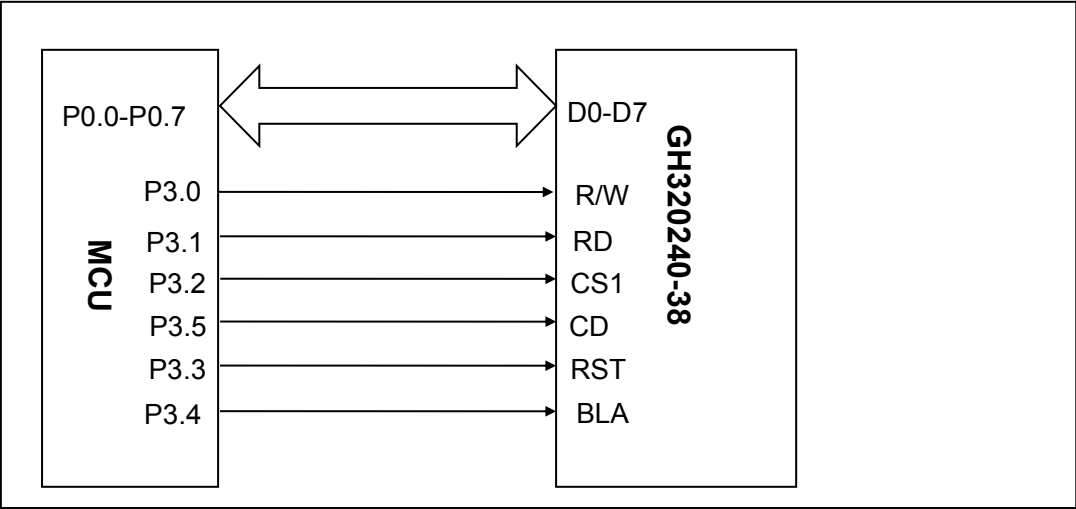
6、 INTERFACE DESCRIPTION (CN1)

PIN	DESC	Function
1	SEL	8080 or 6800 interface selection
2	RST	Reset signal Active L
3	RD	Read Control
4	WR	Write Control or Read/Write Control
5	CD	RA8835 Address(Command/Data)
6	CS	Chip Select Active L
7-14	D0-D7	Data bus
15	VDD	Power supply for Logic circuit and LCD
16	BLA	H:ON L:OFF
17	NC	NC
18	VSS	Ground
19	K	LED-
20	A	LED+
21	NC	NC

7、 BLOCK DIAGRAM



8、 TYPICAL APPLICATIONS



9. RELIABILITY TEST

NO	Test Project	Test Condition	Remark
1	High temperature	60°C ± 2°C 24H	After testing, the appearance and electrical performance deficiencies should not happen.
2	Low temperature	-20°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 → 25°C → 70°C ± 2 (30min) (5min) (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.