



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

GH2004-3101

STN DOTS LCD MODULE

SPECIFICATION

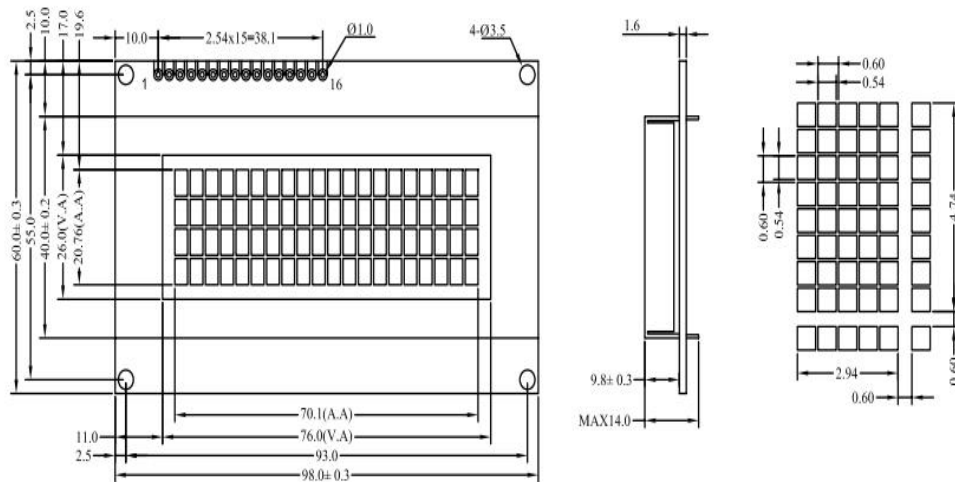
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1、 GENERAL SPECIFICATIONS

Screen size	3.1"(Diagonal)
Display color	Display color: White Background color: Blue
Type	STN
View angle direction	6'clock
Driver mode	1/16 DUTY 1/5 BIAS
Backlight	LED
Controller IC	7066/7065
Data bus	SPI-S8
Temperature range	Operation: -20 °C ---- +70°C Storage: -30 °C ---- +80°C
Number of Dots	20 x 4
Dot size	0.54 x 0.54mm
Dot pitch	0.60 x 0.60mm
Viewing size	76.0 x 26.0mm
Active area	70.1 x 20.76mm
Outline dimension	98.0 x 60.0 x 14.0mm Max.

2、 EXTERNAL DIMENSIONS



3、 ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Min	Type	Max	Unit
Supply voltage for logic	$V_{DD}-V_{SS}$	4.75	5.0	5.25	V
Supply Voltage for LCD Driving	$V_{DD}-V_{ADJ}$	Ta=0	-	-	
		Ta=25	-	-7	
		Ta=50	-	-	
Input Voltage	V_{IH}	2.2	-	V_{DD}	
	V_{IL}	-0.3	-	0.6	
LCM Operating Current	I_{DD}	-	1.5	3	mA
Supply Current for LED	I_{LED}	-	35	50	
Supply Current for LCD	I_{EE}	-	1.0	-	

4、 ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min	Max	Unit	Remark
Supply voltage for logic	VDD-VSS	-0.3	7	V	
Supply Voltage for LCD Driving	VDD -V _{ADJ}	-	10		
Operating temperature	T _{OP}	-20	+70	°C	
Storage temperature	T _{ST}	-30	+80		

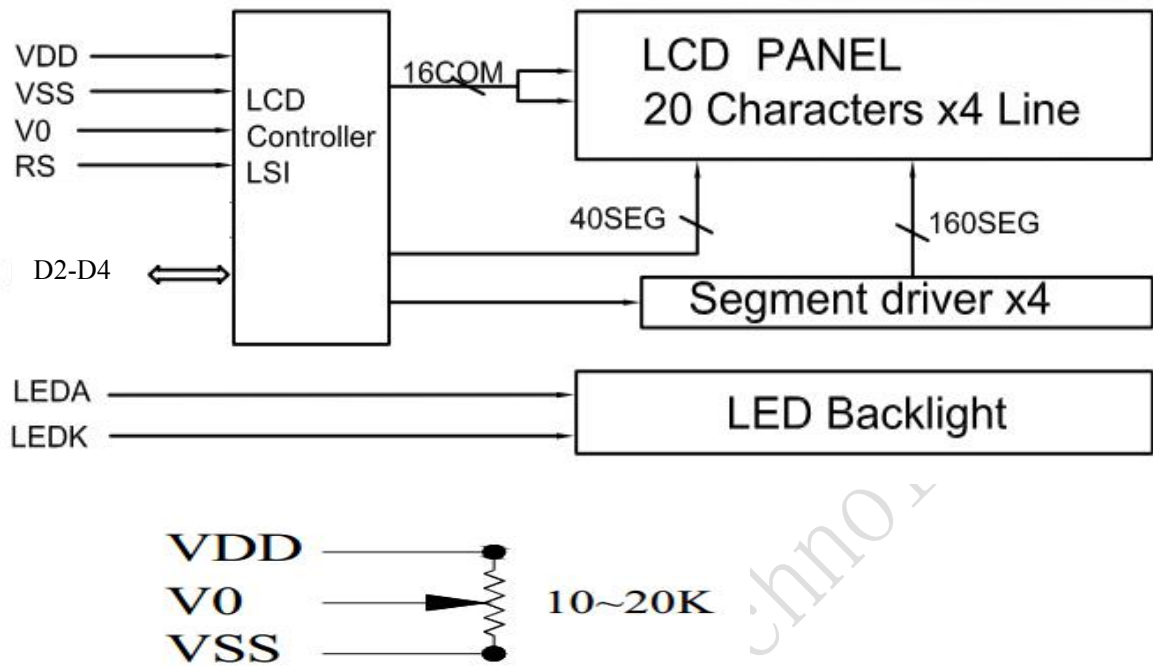
5、 OPTICAL CHARACTERISTICS

Item	Symbol	Condition	Typ.	Unit	Remark	
Viewing angle	∅f	C _R ≥2	40	Radian	∅f	
	∅b		30		∅b	
	∅l		30		∅l	
	∅r		30		∅r	
Response time	T _R	TA=25 °C	120	ms		
	T _F		130			
Frame Frequency	F _{RM}			64	Hz	
Contrast ratio	C _R			6.0	-	

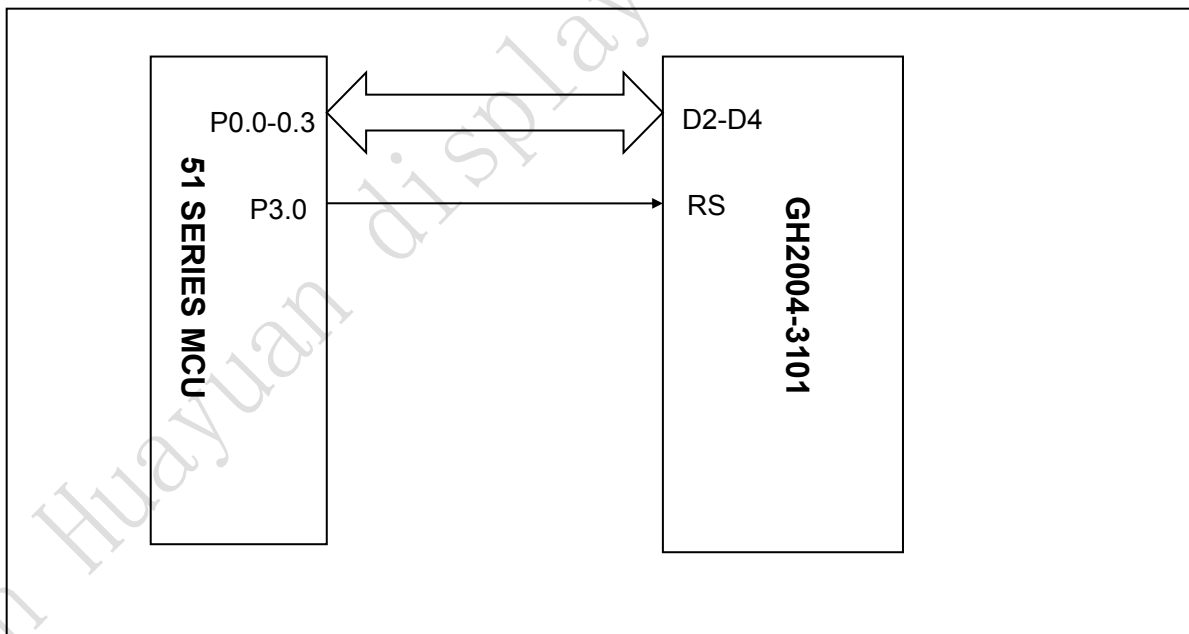
6、 INTERFACE DESCRIPTION

PIN	DESC	Function
1	VSS	GND(0V)
2	VDD	Supply Voltage for Logic(+5V)
3	V0	Power supply for LCD
4	RS	Register selection. L: (for write) Instruction register Busy flag (for read) Address Counter H: (for write and read) Data register
5	D2(CS0)	Chip Select
6	D3(SCL)	The serial clock input
7	D4(SDA)	Serial data input
8	BLA	LED+
9	BLK	LED-

7、 BLOCK DIAGRAM



8、 APPLICATION EXAMPLES



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.