Winstar Display Co., LTD
華凌光電股份有限公司
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Taichune, Taiwan, R.O.C
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SPECIFICATION

CUSTOMER ：

MODULE NO.: WG320240D0-TMI-TZ#

ITEM	STANDARD VALUE	UNIT
Number of dots	320x240	dots
Outline dimension	142.0(W)x 96.0(H)x 15.7max(T)	mm
View area	104.0(W)x 79.3(H)	mm
Active area	95.97(W)x 71.97(H)	mm
Dot size	0.27(W)x 0.27(H)	mm
Dot pitch	0.3(W)x 0.3(H)	mm
LCD type	STN Negative, Blue , Transmissive , (In LCD production, It will occur slightly color difference.We can only guarantee the same color in the same batch.)	
View direction	6 o'clock	
Backlight	LED White	

first FC components
FIRST Components s.r.l. Via Cavour, 69 21020 Buguggiate (VA) Italy Tel. +39 0332 1888005 Fax +39 0332 320856
web: www.first-components.com

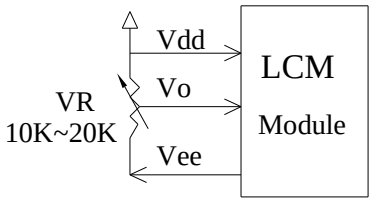
Absolute Maximum Ratings

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT
Operating Temperature	T_{OP}	-20	—	+70	℃
Storage Temperature	T_{ST}	-30	—	+80	℃
Input Voltage	V_I	0	—	V_{DD}	V
Supply Voltage For Logic	V_{DD}-V_{SS}	0	—	6.5	V
Supply Voltage For LCD	V_{DD}-V_O	0	—	32	V

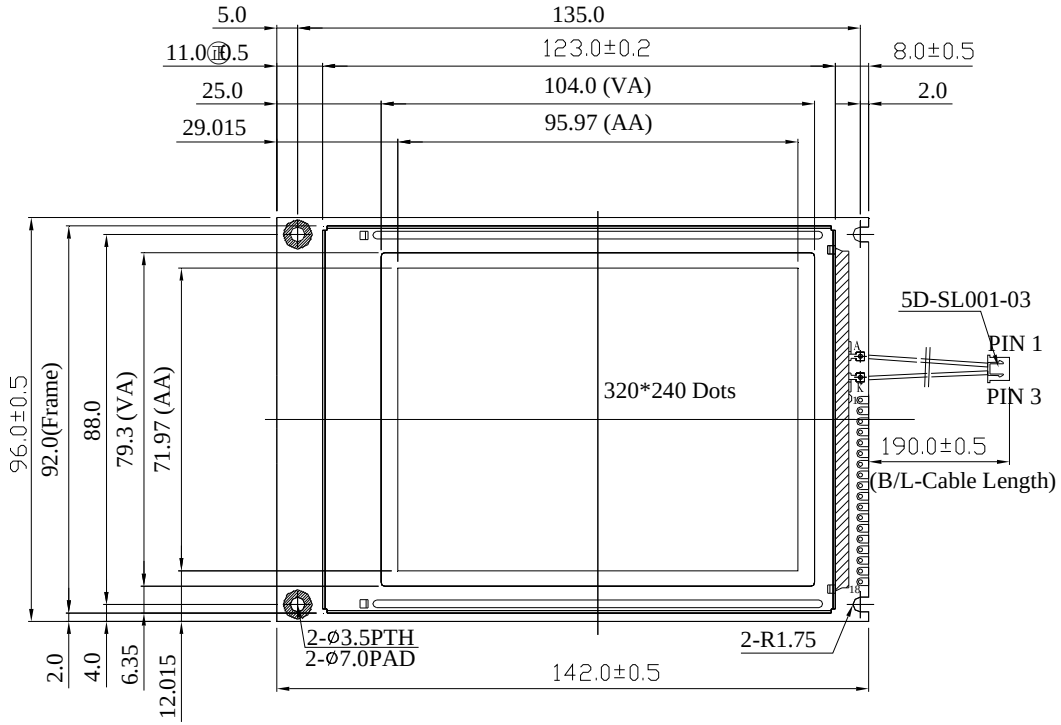
Electrical Characteristics

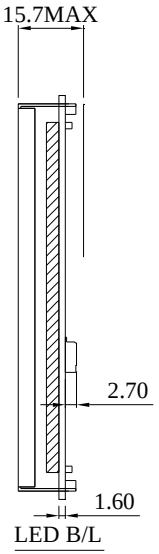
ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Logic Voltage	V_{DD}-V_{SS}	—	4.5	5.0	5.5	V
Supply Voltage For LCD	V_{DD}-V_O	Ta=-20℃	—	—	23.5	V
		Ta=25℃	21.0	21.6	22.2	V
*Note		Ta=+70℃	19.8	—	—	V
Input High Volt.	V_{IH}	—	0.5V_{DD}	—	V_{DD}	V
Input Low Volt.	V_{IL}	—	V_{SS}	—	0.2V_{DD}	V
Output High Volt.	V_{OH}	—	2.4	—	—	V
Output Low Volt.	V_{OL}	—	—	—	0.4	V
Supply Current	I_{DD}	—	98	112	135	mA

* Note: Please design the VOP adjustment circuit on customer's main board

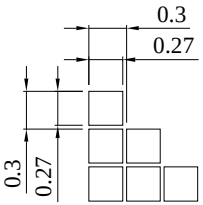


Contour Drawing & Block diagram

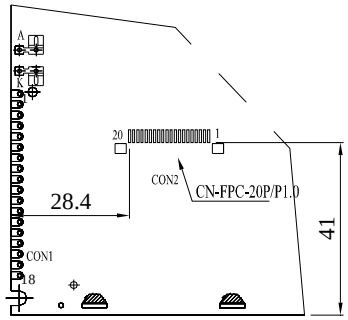




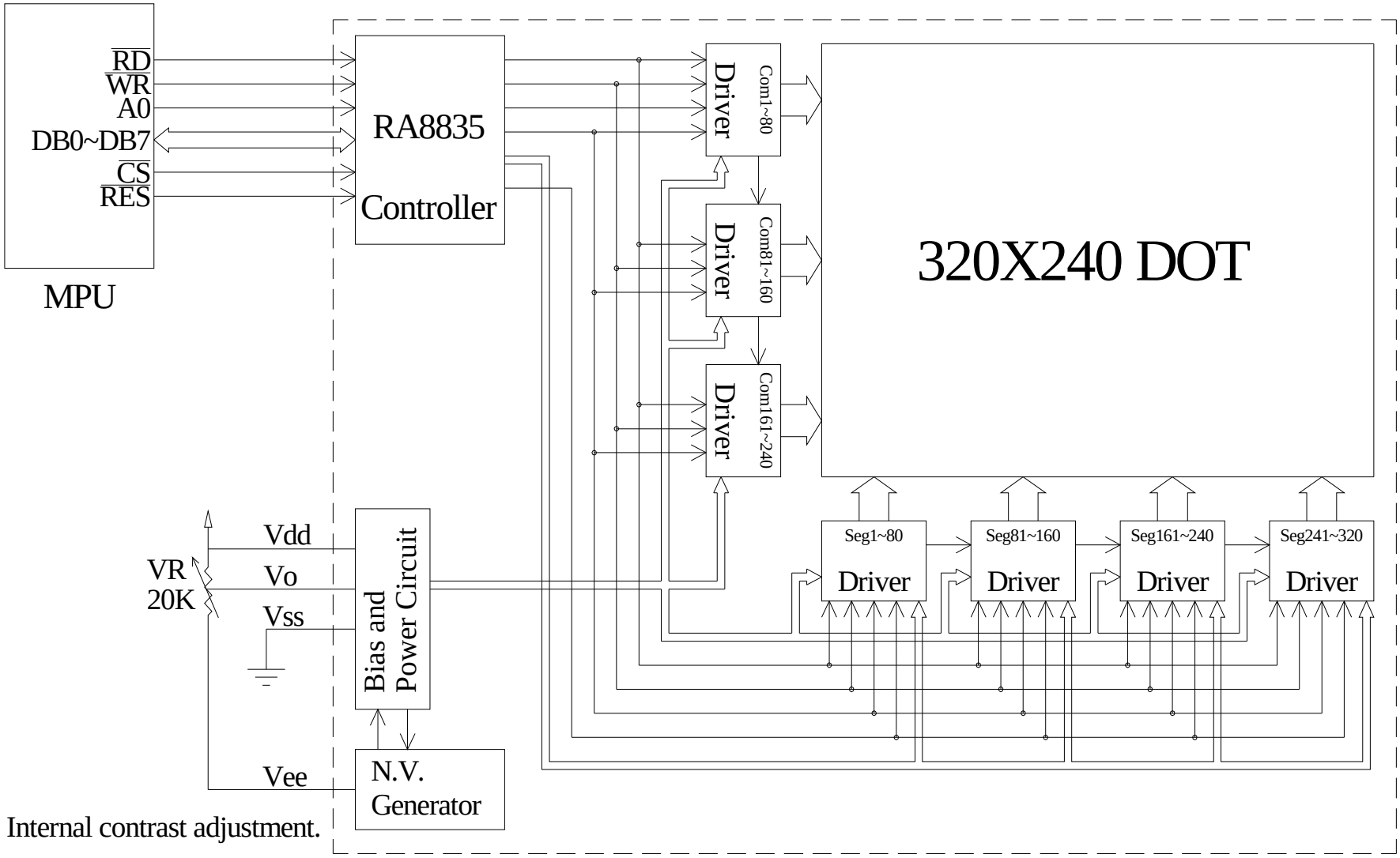
PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	Vss	1	Vss
2	Vdd	2	Vdd
3	Vo	3	Vo
4	A0	4	A0
5	$\overline{WR}$	5	$\overline{WR}$
6	$\overline{RD}$	6	$\overline{RD}$
7	DB0	7	DB0
8	DB1	8	DB1
9	DB2	9	DB2
10	DB3	10	DB3
11	DB4	11	DB4
12	DB5	12	DB5
13	DB6	13	DB6
14	DB7	14	DB7
15	$\overline{CS}$	15	$\overline{CS}$
16	$\overline{RES}$	16	$\overline{RES}$
17	Vee	17	Vee
18	DISP/NC	18	DISPOFF
CON1		19	A
		20	K
		CON2	



The non-specified tolerance of dimension is±0.3mm.



Component Side



Internal contrast adjustment.

*:6800 family or 8080family interface selectable.