Winstar Display Co., LTD
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SPECIFICATION

CUSTOMER ：

MODULE NO.: WG320240C0-TMLVZ#010

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ITEM	STANDARD VALUE	UNIT
Number of dots	320x240	dots
Outline dimension	148.02(W)x 120.24(H)x 17.3max(T)	mm
View area	120.14(W)x 92.14(H)	mm
Active area	115.18(W)x 86.38(H)	mm
Dot size	0.34(W)x 0.34(H)	mm
Dot pitch	0.36(W)x 0.36(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	12 o'clock	
Backlight	LED , White	

first FC components
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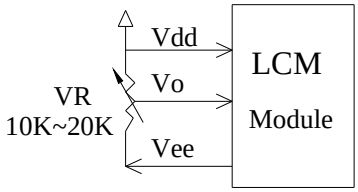
Absolute Maximum Ratings

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}	0	—	6.5	V
Supply Voltage For LCD	V_{DD}-V_{EE}	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 *Note	V_{DD}-V_O	Ta=-20℃	—	—	25.0	V
		Ta=25℃	—	23.8	—	V
		Ta=70℃	23.0	—	—	V
Input High Volt.	V_{IH}	—	0.5V_{DD}	—	V_{DD}	V
Input Low Volt.	V_{IL}	—	0	—	0.2V_{DD}	V
Output High Volt.	V_{OH}	—	2.4	—	—	V
Output Low Volt.	V_{OL}	—	—	—	0.4	V
Supply Current	I_{DD}	—	95.0	100.0	110.0	mA

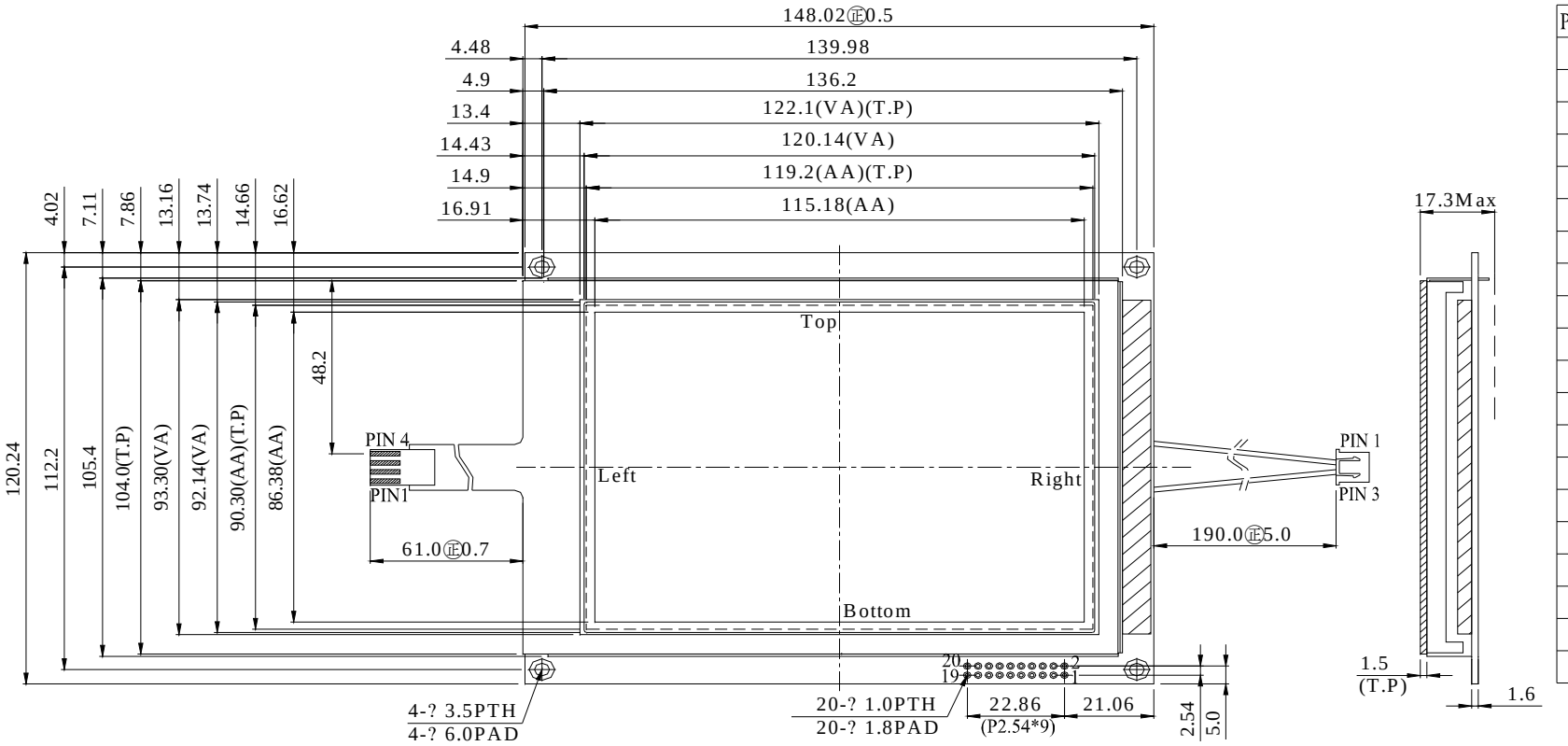
* Note: Please design the VOP adjustment circuit on customer's main board



Interface Description

Pin No.	Symbol	Level	Description
1	V_{SS}	0V	Ground
2	V_{DD}	5.0V	Power supply for Logic
3	V_O	(Variable)	Driving voltage for LCD
4	$\overline{RD}$	H/L	8080family**:** Read signal,6800 family **:**Enable Clock
5	WR	H/L	8080 family**:** Write signal,6800 family **:**R/W signal
6	A0		RD =L,WR=H A0=L: Data Read A0=H: Status read RD =H,WR=L A0=L: Data Write A0=H: Command write For80 Family
			RD =L,WR=H A0=L: Command write A0=H: Data read RD =H,WR=L A0=L: Status read A0=H: Data write For68 Family
7~14	DB0~DB7	H/L	Data bus line
15	$\overline{CS}$	H/L	Chip select ,Active L
16	$\overline{RES}$	H/L	Controller reset signal, Active L
17	V_{EE}		Negative voltage output
18	FGND		Frame Ground
19	NC		No connection
20	NC		No connection

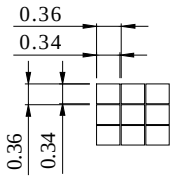
Contour Drawing & Block diagram



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

PIN NO.	Assignment
1	Right
2	Left
3	Bottom
4	Top

TOUCH PANEL PIN ASSIGENMENT



DOT SIZE
SCALE 10/1