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SPECIFICATION

CUSTOMER ： _____

MODULE NO.: WG240128A-TFH-VZ#100

APPROVED BY: (FOR CUSTOMER USE ONLY)	**PCB VERSION;** **DATA:**

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
first FC components			

VERSION	DATE	REVISED PAGE NO.	SUMMARY
0	2010.10.01		First issue

Precautions in use of LCD Modules

(1)Avoid applying excessive shocks to the module or making any alterations or modifications to it.
(2)Don't make extra holes on the printed circuit board, modify its shape or change the components of LCD module.
(3)Don't disassemble the LCM.
(4)Don't operate it above the absolute maximum rating.
(5)Don't drop, bend or twist LCM.
(6)Soldering: only to the I/O terminals.
(7)Storage: please storage in anti-static electricity container and clean environment.
(8). Winstar have the right to change the passive components
(Resistors,capacitors and other passive components will have different appearance and color caused by the different supplier.)
(9). Winstar have the right to change the PCB Rev.

General Specification

Item	Dimension	Unit
Number of Characters	240 x 128	–
Module dimension	170.0 x 93.4 x 14.6(MAX)	mm
View area	128.0 x 74.0	mm
Active area	119.97 x 63.97	mm
Dot size	0.47 x 0.47	mm
Dot pitch	0.5 x 0.5	mm
LCD type	FSTN Positive Transflective (In LCD production, It will occur slightly color difference. We can only guarantee the same color in the same batch.)	
Duty	1/128	
View direction	6 o'clock	
Backlight Type	LED White	

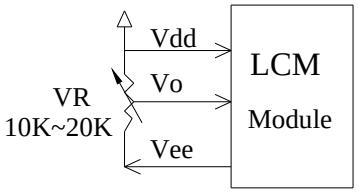
Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_{OP}	-20	—	+70	℃
Storage Temperature	T_{ST}	-30	—	+80	℃
Input Voltage	V_I	Vss	—	V_{DD}	V
Supply Voltage For Logic	V_{DD}-V_{SS}	-0.3	—	+7	V
Supply Voltage For LCD	V_{DD}-V_0	0	—	27	V

Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	V_{DD}-V_{SS}	—	3.0	—	5.5	V
Supply Voltage For LCD *Note	V_{DD}-V_0	Ta=-20℃	—	—	20.1	V
		Ta=25℃	—	18.0	—	V
		Ta=70℃	16.3	—	—	V
Input High Volt.	V_{IH}	—	0.8V_{DD}	—	V_{DD}	V
Input Low Volt.	V_{IL}	—	0	—	0.2 V_{DD}	V
Output High Volt.	V_{OH}	—	V_{DD}-0.3	—	V_{DD}	V
Output Low Volt.	V_{OL}	—	0	—	0.3	V
Supply Current	I_{DD}	—	15.0	23.5	35.0	mA

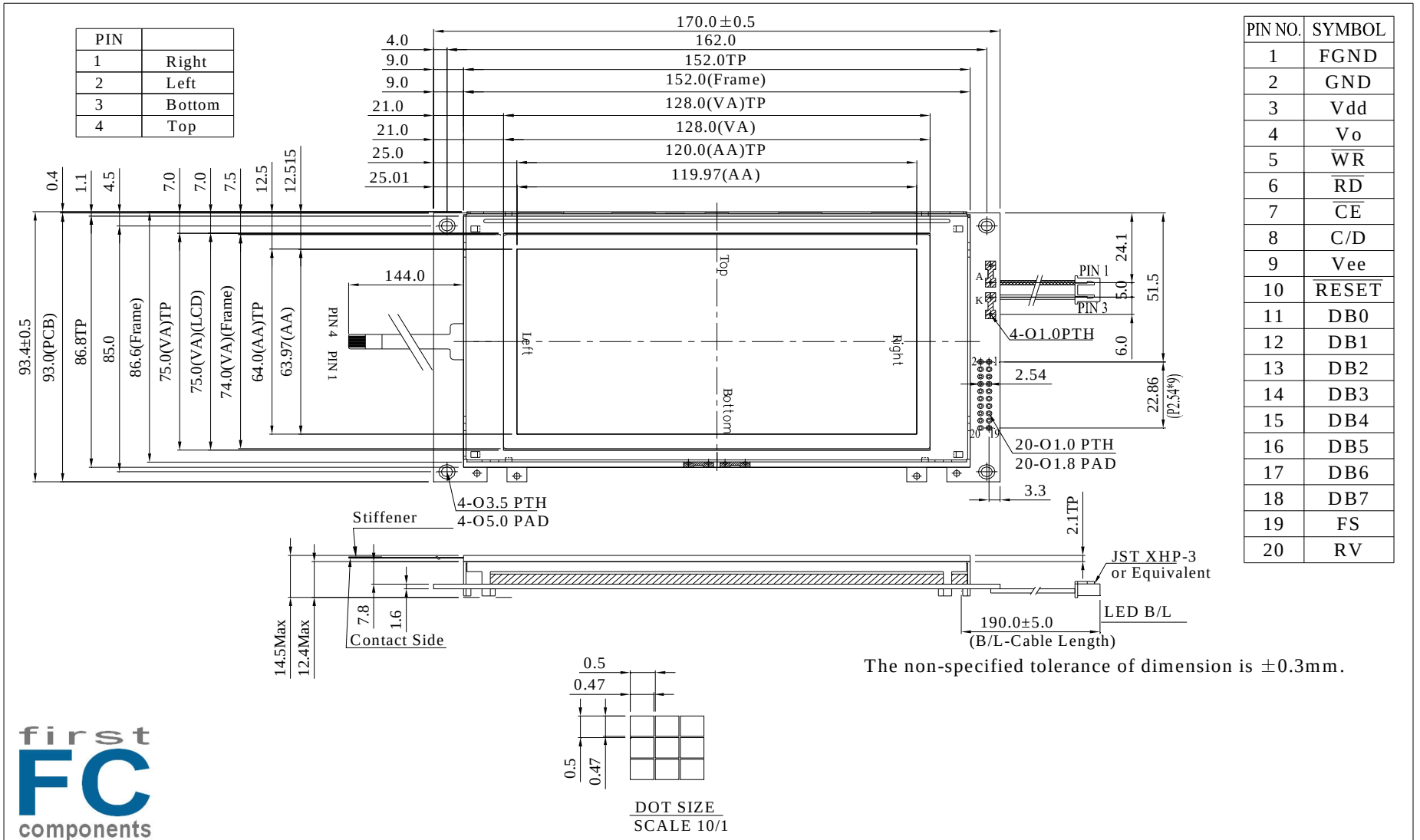
* Note: Please design the VOP adjustment circuit on customer's main board



Interface Description

Pin No.	Symbol	Level	Description
1	FGND	-	Frame ground (Connected to bezel)
2	Vss	-	GND
3	Vdd	-	Power supply
4	Vo	-	Power supply for LCD driver
5	WR	L	Data write. Write data into RA6963when WR = L
6	RD	L	Data read. Read data from RA6963when RD = L
7	CE	L	L : Chip enable
8	C/D	H / L	WR=L , C/D=H : Command Write C/D=L: Data write RD=L , C/D=H : Status Read C/D=L: Data read
9	Vee	-	Negative voltage output
10	RESET	H / L	H : Normal ; L : Initialize RA6963
11	DB0	H / L	Data bus line
12	DB1	H / L	Data bus line
13	DB2	H / L	Data bus line
14	DB3	H / L	Data bus line
15	DB4	H / L	Data bus line
16	DB5	H / L	Data bus line
17	DB6	H / L	Data bus line
18	DB7	H / L	Data bus line
19	FS	MD2	Pins for selection of font; H : 6 * 8 , L : 8 * 8
20	RV	H / L	H: Reverse H: Normal

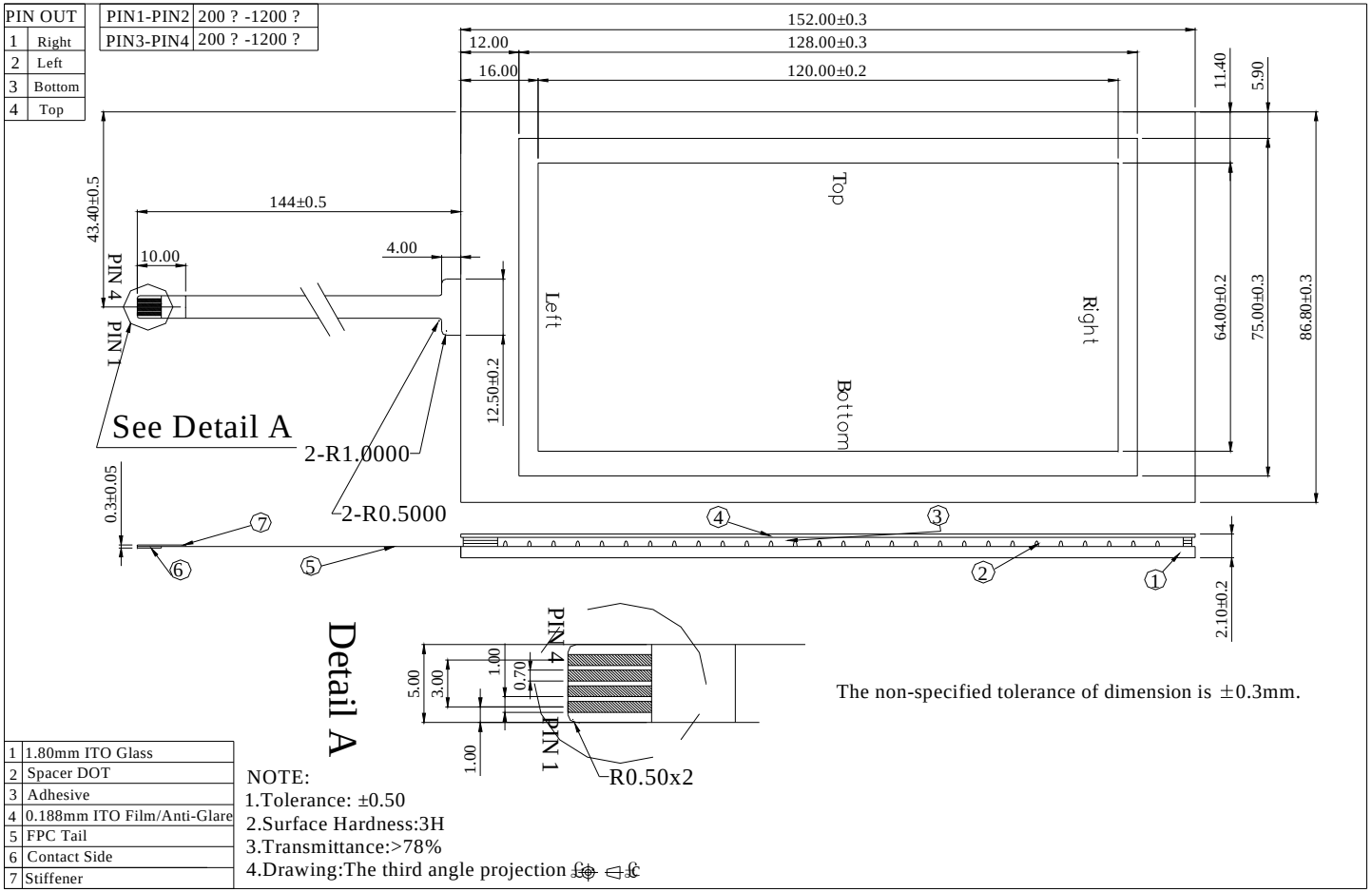
Contour Drawing &Block Diagram



PIN NO.	SYMBOL
1	FGND
2	GND
3	Vdd
4	Vo
5	$\overline{WR}$
6	$\overline{RD}$
7	$\overline{CE}$
8	C/D
9	Vee
10	$\overline{RESET}$
11	DB0
12	DB1
13	DB2
14	DB3
15	DB4
16	DB5
17	DB6
18	DB7
19	FS
20	RV

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

Touch Panel Specifications



Non-Proper Ways to handle the touch screen

1. Do not pull or crease the tail of the touch screen.
2. Tails, unless the drawing calls out for a bend, are to be free of permanent creases in the polyester, slight crease lines in the adhesive tail cover are allowed