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SPECIFICATION

CUSTOMER ：

MODULE NO.: WO12864-85HB1#000-FC

Specification

Item	Dimension	Unit
Number of Characters	128 x 64 dots	—
Module dimension	89.7x 49.8 x7.04(MAX)	mm
View area	69.0 x 36.5	mm
Active area	63.97 x31.97	mm
Dot size	0.47 x0.47	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	1/65 , 1/9 Bias	
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	℃
Supply voltage for Logic	V_{DD}	0.3	—	5.0	V
Supply Voltage forLCD Driver	V_{OUT} ,V0	0.3		18.0	V

.Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	V_{DD}-V_{SS}	—	3.0	3.3	3.6	V
Supply Voltage For LCM	V_{SS}-V_5	Ta=-20℃ Ta=25℃ Ta=70℃	9.5 9.2 8.95	9.8 9.45 9.2	10.5 9.7 9.45	V V V
Input High Volt.	V_{IH}	—	0.8 V_{DD}	—	V_{DD}	V
Input Low Volt.	V_{IL}	—	Vss	—	0.2 V_{DD}	V
Output High Volt.	V_{OH}	I_{OUT}=-0.5mA	0.8 V_{DD}	—	V_{DD}	V
Output Low Volt.	V_{OL}	I_{OUT}=0.5mA	Vss	—	0.2V_{DD}	V
Supply Current(No include LED Backlight)	I_{DD}	V_{DD}=3.3V		0.60	2.0	mA

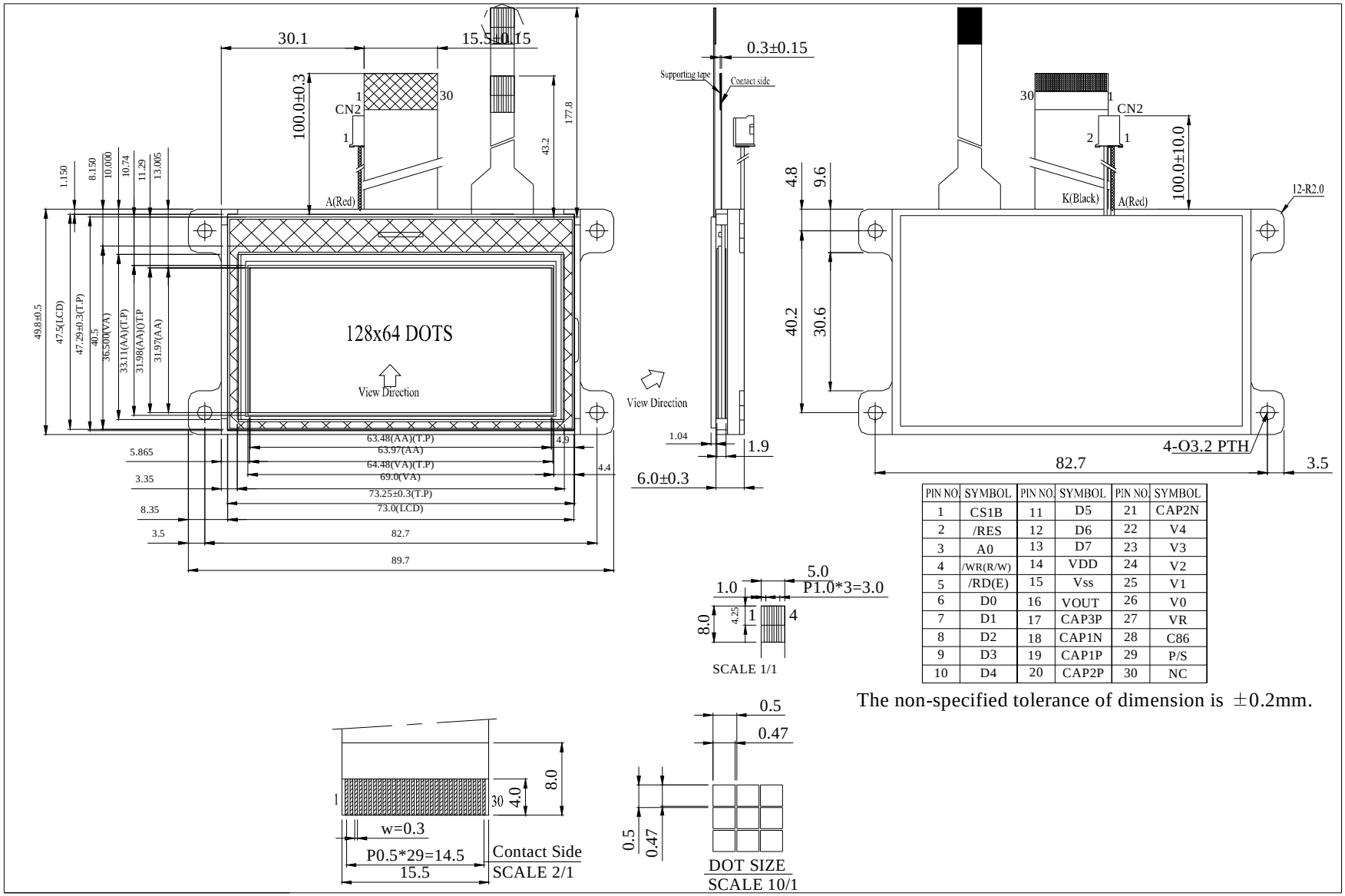
NOTE: 1) Duty ratio=1/65, Bias=1/9

2) Measured in Dots ON-state

Interface Pin Function

Pin No.	Symbol	I/O	Description
1	/CS1B	I	This is the chip select signal.
2	/RES	I	When RES is set to “L”, the setting are initialized.
3	A0	I	This is connect to the least significant bit of the Norman MPU address bus, and it determines whether the data bits are data or a command.
4	/WR(R/W)	I	The data bus are latched at the rising edge of the WR signal
5	/RD(E)	I	The data bus is in output status when this signal is “L”
6~13	D0~ D7	I/O	This is an 8-bit bi-directional data bus that connects to an 8-bit or 16-bit standard MPU data bus.
14	VDD	Power Supply	Power supply
15	VSS	Power Supply	Ground
16	VOUT	O	DC/DC voltage converter. Connect a capacitor between this terminal and vss or VDD
17	CAP3P	O	DC/DC voltage converter. Connect a capacitor between this terminal and the CAP1N terminal.
18	CAP1N	O	DC/DC voltage converter. Connect a capacitor between this terminal and the CAP1P terminal.
19	CAP1P	O	DC/DC voltage converter. Connect a capacitor between this terminal and the CAP1N terminal.
20	CAP2P	O	DC/DC voltage converter. Connect a capacitor between this terminal and the CAP2N terminal.
21	CAP2N	O	DC/DC voltage converter. Connect a capacitor between this terminal and the CAP2P terminal.
22~26	V4~ V0	Power Supply	This is a multi-level power supply for the liquid crystal drive.
27	VR	I	Output voltage regulator terminal. Provides the voltage between VSS and V0 through a resistive voltage divider.
28	C86	I	This is the MPU interface switch terminal.
29	P/S	I	This is the parallel data input/serial data input switch terminal.
30	NC	-	No connection.

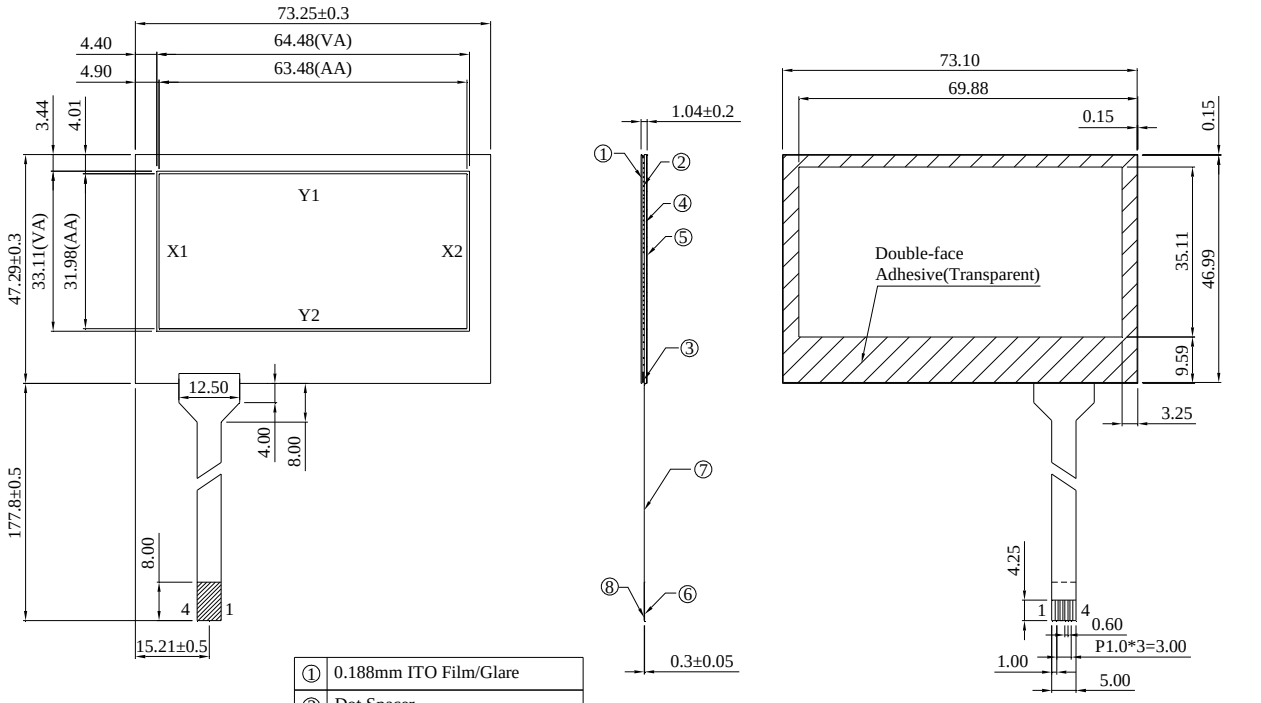
Contour Drawing &Block Diagram



PIN NO.	SYMBOL	PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	CS1B	11	D5	21	CAP2N
2	/RES	12	D6	22	V4
3	A0	13	D7	23	V3
4	/WR(R/W)	14	VDD	24	V2
5	/RD(E)	15	Vss	25	V1
6	D0	16	VOUT	26	V0
7	D1	17	CAP3P	27	VR
8	D2	18	CAP1N	28	C86
9	D3	19	CAP1P	29	P/S
10	D4	20	CAP2P	30	NC

The non-specified tolerance of dimension is ±0.2mm.

Touch panel Information



PIN OUT	
1	Y1
2	X2
3	Y2
4	X1

①	0.188mm ITO Film/Glare
②	Dot Spacer
③	Adhesive
④	0.7mm Glass
⑤	Double-face Adhesive(Transparent)
⑥	Contact Side
⑦	FPC Tail
⑧	Stiffener

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

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.