

PRODUCT SPECIFICATIONS

MODULE NO. : MTC5917FB+ B L

REVISION :V1.0

DRAWING BY : Allen

DATE : 2007-05-09

APPROVED BY :

DATE :

History of Versions and Modifications

Version	Modifications	Date

SAMPLE SPECIFICATIONS

- LCD MODULE PHYSICAL DATA
- BLOCK DIAGRAM
- ABSOLUTE MAXIMUM RATINGS
- ELECTRICAL CHARACTERISTICS
- INSTRUCTION LIST
- ELECTRO-OPTICAL CHARACTERISTICS
- INTERFACE PIN CONNECTIONS
- SUGGESTIONS FOR USING LCD MODULES
- PACKING

■ **LCD MODULE PHYSICAL DATA**

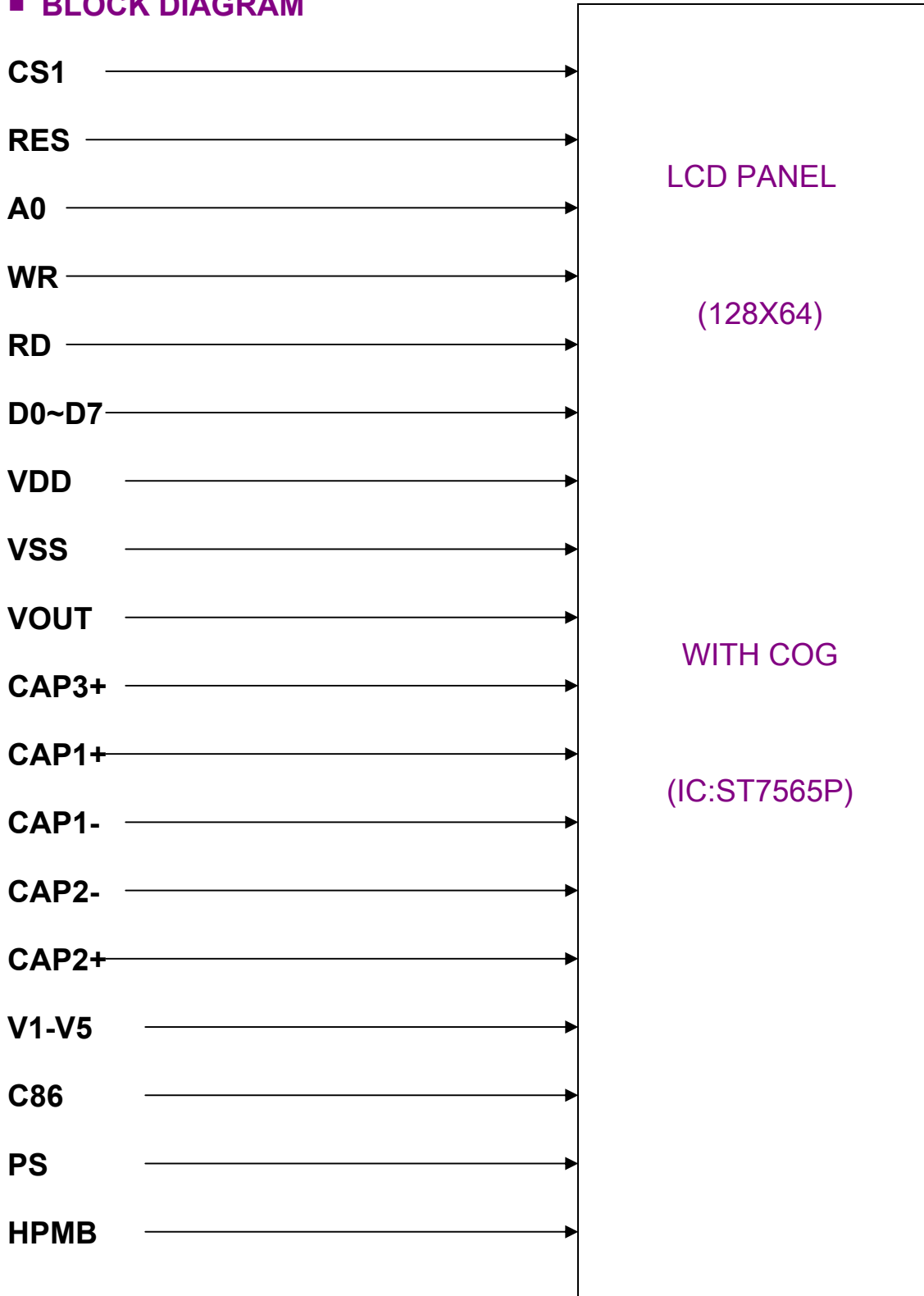
◆ **General Description**

Display Type	FSTN	
Viewing Direction	6 o'clock	
Connection Type	COG	
Operation temperature	0°C ~ +50°C	
Storage temperature	-10°C ~ +60°C	
Driving IC	ST7565P	
Driving Method	Duty	1/65
	Bias	1/9
	Vop	9.0V
Polarizer Mode	Transflective/positive	

◆ **Mechanical Description**

Item	Standard Value	Unit
Number of dots	128X64 dots	--
Module dimension	57.0(W) X39.4(H) X1.9(T)	mm
Viewing area	52.6(W) X 27.5(H)	mm
Active area	48.615(W) X 24.295(H)	mm
Dot size	0.38(W) X 0.38 (H)	mm
Dot pitch	0.735(W) X 0.735(H)	mm
Approx. weight	TBD	g
Backlight	LED(Amber)	

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Min	Max	Unit
Operating temperature	Top	0	50	°C
Storage temperature	Tst	-10	60	°C
Input voltage VIN	VSS	-0.3	5.3	V
Supply voltage for logic	VDD	-0.3	5	V
Supply voltage for LCD	VLCD	-16	0.3	V

NOTE:

1. If the module is used above these absolute maximum ratings. It may become permanently damaged. Using the module within the following electrical characteristic conditions are also exceeded, the module will malfunction and cause poor reliability.
2. VDD>GND must be maintained.

■ ELECTRICAL CHARACTERISTICS(Vss=0V, VDD=2.4~3.6V Ta=25°C)

◆ DC Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Input high voltage	VIH	-	0.8VDD	-	VDD	V
Input low voltage	VIL	-	Vss	-	0.2VDD	V
Supply voltage for logic	VDD-VSS	Ta=25°C	2.4	-	3.6	V
Operating voltage for LCD VLCD	Ta=25°C		-13	-	-6	V
Current consumption for LCD normal operation	IDD	VDD =3.0V	-	70	117	uA

◆ AC Characteristics

IC DATA SHEET

◆ INSTRUCTION LIST

IC DATA SHEET

■ ELECTRO-OPTICAL CHARACTERISTICS

Item	Symbol	Condition	Min	Typ	Max	Unit
View angle(V)	θ	$Cr \geq 2$	-35	-	+35	deg
View angle(H)	Φ	$Cr \geq 2$	-35	-	+35	deg
Contrast ratio	Cr	Ta=25°C	-	5	-	-
Response time	Tr	Ta=25°C	-	200	400	ms
	Td	Ta=25°C	-	200	800	ms

■ INTERFACE PIN CONNECTIONS

NO.	SYMBOL	FUNCTION
29	HPMB	/HPM="H",Normal mode,="L"High power mode
28	PS	This is the parallel data /serial data converter
27	C86	This is the MPU interface switch terminator
26	V5	Power supply for LCD driver
25	V4	
24	V3	
23	V2	
22	V1	
21	CAP2+	
20	CAP2-	
19	CAP1-	

18	CAP1+	
17	CAP3+	
16	VOUT	DC/DC Voltage converter
15	VSS	GND
14	VDD	Power Supply
13	D7	This is a 8-bit standard MPU data bus.
12	D6	
11	D5	
10	D4	
9	D3	
8	D2	
7	D1	
6	D0	
5	RD(E)	RD(ENABLE) control PIN
4	WR(R/W)	WR(R/W) control PIN
3	AO	Data control PIN
2	/RES	Initialized control PIN. "L" active.
1	/CS1	Chip select PIN. "L" active

■ SUGGESTIONS FOR USING LCD MODULES

◆ Handling of LCM

- (1) The LCD screen is made of glass. Don't give excessive external shock, or drop from a high place.
- (2) If the LCD screen is damaged and the liquid crystal leaks out, do not lick and swallow. When the liquid is attach to your hand, skin, cloth etc, wash it off by using soap and water thoroughly and immediately.
- (3) Don't apply excessive force on the surface of the LCM.
- (4) If the surface is contaminated ,clean it with soft cloth. If the LCM is severely contaminated , use Isopropyl alcohol/Ethyl alcohol to clean. Other solvents may damage the polarizer . The following solvents is especially prohibited: water , ketone Aromatic solvents etc.
- (5) Exercise care to minimize corrosion of the electrode. Corrosion of the electrodes is accelerated by water droplets, moisture condensation or a current flow in a high-humidity environment.
- (6) Install the LCD Module by using the mounting holes. When mounting the LCD module make sure it is free of twisting, warping and distortion. In particular, do not forcibly pull or bend the I/O cable or the backlight cable.
- (7) Don't disassemble the LCM.
- (8) To prevent destruction of the elements by static electricity, be careful to maintain an optimum work environment.
 - Be sure to ground the body when handling the LCD modules.
 - Tools required for assembling, such as soldering irons, must be properly grounded.
 - To reduce the amount of static electricity generated, do not conduct assembling and other work under dry conditions.
 - The LCD module is coated with a film to protect the display surface. Exercise

care when peeling off this protective film since static electricity may be generated.

(9) Do not alter, modify or change the the shape of the tab on the metal frame.

(10) Do not make extra holes on the printed circuit board, modify its shape or change the positions of components to be attached.

(11) Do not damage or modify the pattern writing on the printed circuit board.

(12) Absolutely do not modify the zebra rubber strip (conductive rubber) or heat seal connector

(13) Except for soldering the interface, do not make any alterations or modifications with a soldering iron.

(14) Do not drop, bend or twist LCM.

◆ **Storage**

(1) Store in an ambient temperature of 5 to 45 ° C, and in a relative humidity of 40% to 60%.

Don't expose to sunlight or fluorescent light.

(2) Storage in a clean environment, free from dust, active gas, and solvent.

(3) Store in antistatic container.

◆ **Soldering**

(1) Use the high quality solder. (60-63% tin mixed with lead)

(2) Iron: no higher than 260° C and less than 3-4 sec during soldering.

(3) Soldering: only to the I/O terminals.

(4) Rewiring: no more than 3 times.

■ **PACKING**

◆ **Packing Materials**

NO. ITEM Dimension(LXWXH) (mm) Quantity

1 EPE Tray 390X220X11—3X7PCS

2 Inter box

3 Big box

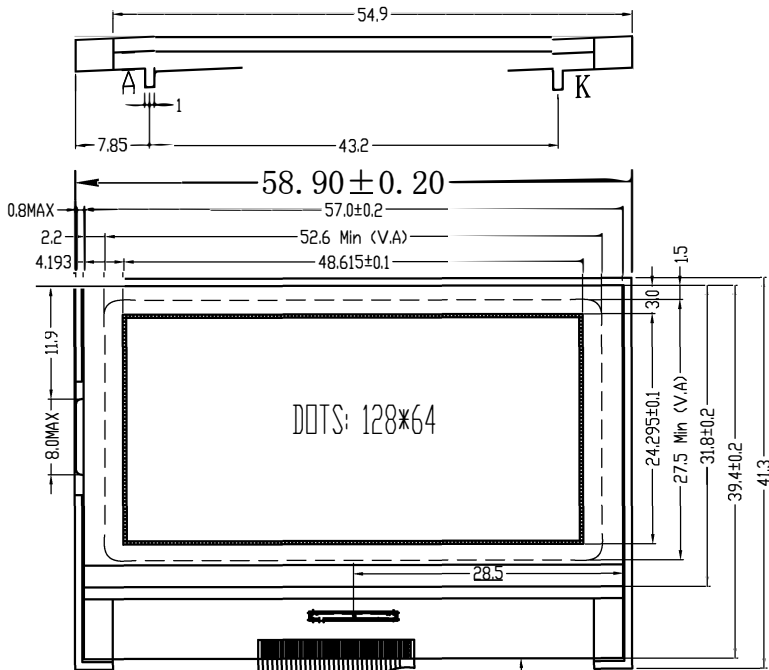
◆ Packing Method

Step1 : Put products into the tray

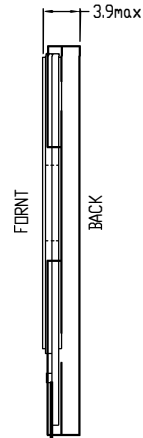
Step2: Tray stacking

Step3:Put products into inter box

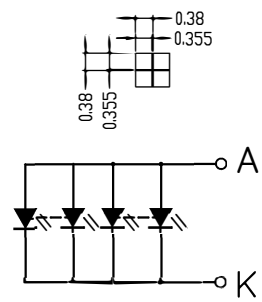
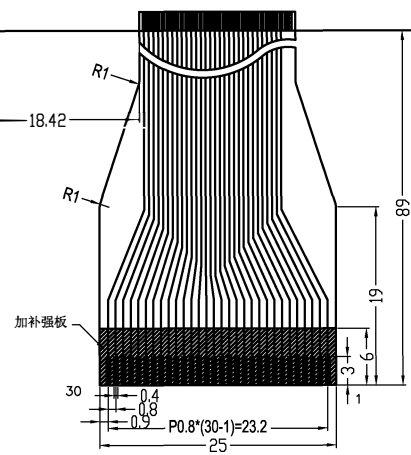
Step4:Put products box into big box



VIEWING DIRECTION



PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
INSTR.	CS	CS	IO	MI	DD	D0	D1	D2	D3	D4	D5	D6	D7	DD	SS
PIN	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
INSTR.	DD	DD	DD	DD	DD	V1	V2	V3	V4	V5	CS	CS	CS	DD	NC



CIRCUIT DIAGRAM

- NOTE:
- 1 DISPLAY TYPE : FSTN
 - 2 OPERATING VOLTAGE 9.0 V
 - 3 DRIVE METHOD : 1/64 DUTY 1/9 BIAS
 - 4 VIEWING DIRECTION: 6 O'CLOCK
 - 5 POLARIZER MODE : TRANSPARENT/POSITIVE
 - 6 OPERATING TEMP : 0°C -- +60°C
 - 7 STORAGE TEMP : -20°C -- +70°C
 - 8 CONNECTOR : CDG
 - 9 在4個對位點周圍2MM以內不能存在ITO.
 - 10 Silicon coating area must be cover ITO line.

加补强板
0.1(MAX)
0.3

LCM NO.: MT5917FB+BL	FPC NO. A: MT5917FB+BL	VERSION: 1.0
DESIGNED BY:	FPC NO. B:	NO.: 1 OF 1
APPROVED BY:	FPC NO. C:	UNIT: MM
		DATE: 20014-03-13