



晶發科技有限公司
GI FAR TECHNOLOGY CO.,LTD

SPECIFICATIONS

CUSTOMER : _____
SAMPLE CODE : **GFT080BB800600-DL**
DRAWING NO. : _____
DATE : **2007.01.06**

Customer Sign	Sales Sign	Approved By	Prepared By
			Claire



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1. OVERVIEW

GFT080BB800600-DL is 8" color TFT-LCD (Thin Film Transistor Liquid Crystal Display) module composed of LCD panel, driver ICs, control circuit, and backlight. Utilizes a panel with 4:3 aspect ratio.

The 8.0" screen produces a high resolution image that is composed of 480,000 (800×600) pixel elements in a stripe arrangement.

General specifications are summarized in the following table:

ITEM	SPECIFICATION	Unit
Display Area	162.0(H) x 121.5(V)	mm
Number of Pixels	800(H) X 3(RGB) X 600(V)	dot
Pixel Pitch	0.2025 (H) x 0.2025(V)	mm
Color Pixel Arrangement	RGB vertical stripe	
Display Mode	normally white TN	
Driving Mode	Digital	
Number of Colors	262 K	
Optimum Viewing Angle	6 o'clock	
Brightness	250	cd/m ²
Module Size	183.0(W) x 141.0(H) x 6.7(D) (without fix)	mm
Module Weight	300	g
Backlight Unit	LED	
Surface Treatment	Anti-Glare	

The LCD Products listed on this document are not suitable for use of aerospace equipment, submarine cables, nuclear reactor control system and life support systems. If customers intend to use these LCD products for above application or not listed in "Standard" as follows, please contact our sales people in advance.

Standard: The applications are Portable DVD, Multimedia applications and others AV system.

2. ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	MIN.	MAX.	UNIT
Power Supply Voltage for LCD	V _{cc}	-0.5	4.6	V
Signal input voltage	DCLK,DE,R0,G0,B0~R5,G5,B5	-0.5	4.6	V



3. ELECTRICAL CHARACTERISTICS

(a) Typical operation conditions (GND = AV_{ss} = 0 V)

T_a=25°C

Item	Symbol	Min.	Typ	Max.	Unit	Note
Power Supply Voltage For LCD	VCC	3	3.3	3.6	V	
Logic Input Voltage	V _{IH}	VCC*0.7	--	VCC	V	
	V _{IL}	0	--	VCC*0.3	V	

(b) Current consumption (GND = AV_{ss} = 0 V)

T_a=25°C

Item	Symbol	Min.	Typ	Max.	Unit	Note
LCD power current	ICC	--	106.0	152.7	mA	

(c) Backlight driving condition

T_a=25°C

ITEM	SYMBOL	MIN	TYP	MAX	UNIT	NOTE
LED Voltage	VL	9.6	9.9	10.2	v	
LED Current	IL	180			mA	



(e) Color DATA INPUT ASSIGNMENT

		Data Signal																	
		Red						Green						Blue					
Color		R5	R4	R3	R2	R1	R0	G5	G4	G3	G2	G1	G0	B5	B4	B3	B2	B1	B0
Basic Colors	Black	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	Green	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0
	Blue	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
	Cyan	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	Magenta	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1
	Yellow	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
	White	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gray Scale of Red	Red(0) / Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red(1)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	Red(2)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	Red(61)	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	Red(62)	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red(63)	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Gray Scale of Green	Green(0)/ Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Green(1)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
	Green(2)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
	Green(61)	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	0	0	
	Green(62)	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	
	Green(63)	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	
Gray Scale of Blue	Blue(0)/ Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Blue (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	Blue (2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	Blue (61)	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1
	Blue (62)	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0
	Blue (63)	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1



4. INTERFACE CONNECTION

(1) CN2 (INTERFACE SIGNAL)

Pin No.	Symbol	I/O	Function
1	GND	P	Power ground
2	GND	P	Power ground
3	V _{ADJ}	P	LED Brightness Adjustment
4	VCC	P	Power supply for digital circuit(3.3V)
5	VCC	P	Power supply for digital circuit(3.3V)
6	VCC	P	Power supply for digital circuit(3.3V)
7	VCC	P	Power supply for digital circuit(3.3V)
8	VCC	P	Power supply for digital circuit(3.4V)
9	DE	I	Date enable
10	GND	P	Power ground
11	GND	P	Power ground
12	GND	P	Power ground
13	BI5	I	Blue data input (MSB)
14	BI4	I	Blue data input
15	BI3	I	Blue data input
16	GND	P	Power ground
17	BI2	I	Blue data input
18	BI1	I	Blue data input
19	BI0	I	Blue data input(LSB)
20	GND	P	Power ground
21	GI5	I	Green data input(MSB)
22	GI4	I	Green data input
23	GI3	I	Green data input
24	GND	P	Power ground
25	GI2	I	Green data input
26	GI1	I	Green data input
27	GI0	I	Green data input(LSB)
28	GND	P	Power ground
29	RI5	I	Red data input(MSB)
30	RI4	I	Red data input
31	RI3	I	Red data input
32	GND	P	Power ground
33	RI2	I	Red data input
34	RI1	I	Red data input
35	RI0	I	Red data input(LSB)
36	GND	P	Power ground
37	GND	P	Power ground
38	DCLK	I	Sample clock
39	Hsync	I	Horizontal SYNC
40	Vsync	I	Vertical SYNC

(2) CN3 (BACK LIGHT)

Backlight-side connector: BHSR-02VS-1 (JST made)



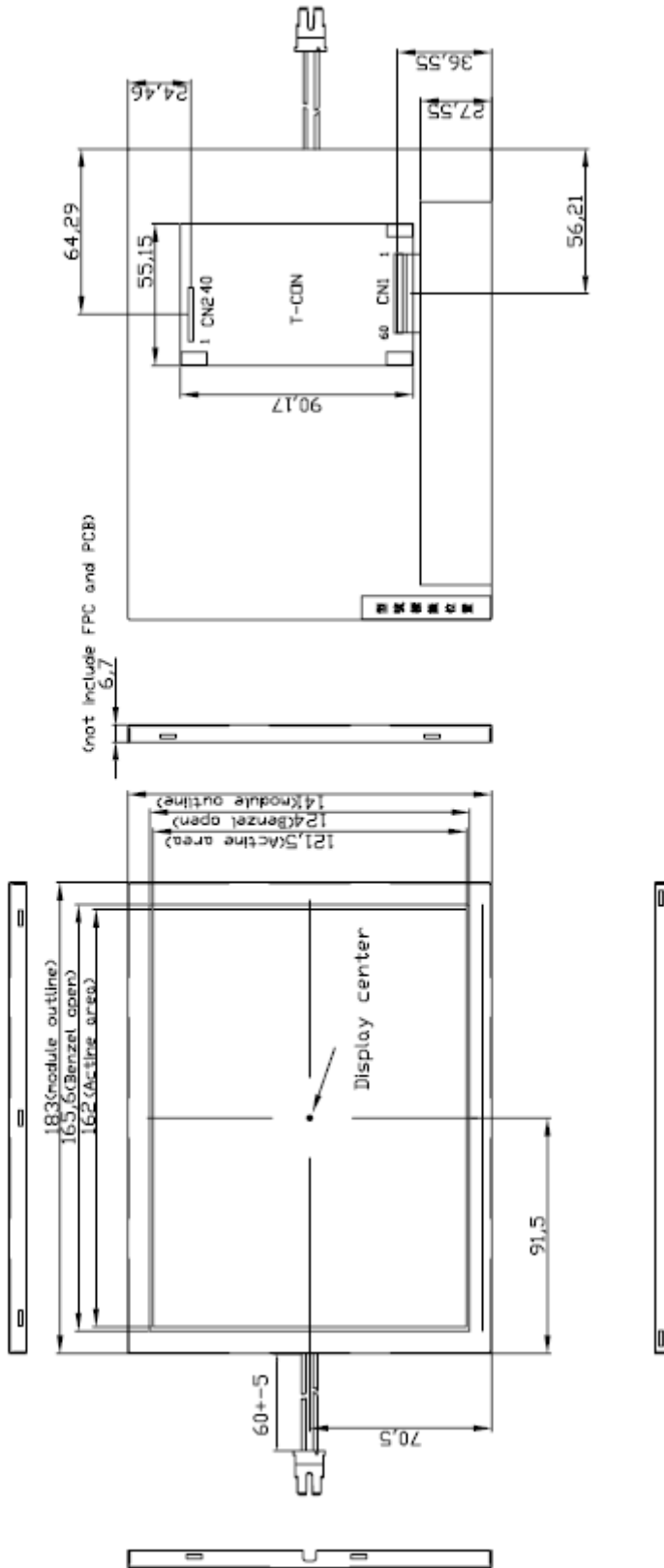
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Note:

1. Light bar connector for backlight to be JSTBHSR-02VS-1*
2. CNI and CHE to be P-TWQFAF 730L-A2G1T*
3. The bending radius of FPC should be larger than 0.6R
4. General tolerance ± 0.3 mm
5. The max thickness of PCB and FPC is 3.7mm



6. OPTICAL CHARACTERISTICS

Ta=25°C , VCC=3.3V

ITEM		SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Contrast Ratio		CR	*1)	350	400	--	--
Luminance *2)		L	I _L =180mA	220	250	--	cd/m ²
Luminance Uniformity		ΔL	*4)	--	--	30	%
Response Time		Tr	*5)	--	12	16	ms
		Tf		--	18	24	ms
Viewing Angle	Horizontal	ψ*3)	CR ≥ 10	120	130	--	°
	Vertical	θ*3)		100	110	--	°

[Note]

- These items are measured by BM-7 (TOPCON) or CA-1000(MINOLTA) in the dark room. (no ambient light).
-

*1) Definition of contrast ratio :

Measure contrast ratio on the below 5 points (refer to figure1, #1~#5 point) and take the average value.
 Contrast ratio is calculated with the following formula :
 Contrast Ratio (CR) = (White) Luminance of ON ÷ (Black) Luminance of OFF

*2) Definition of luminance :

Measure white luminance on the same 5 points and take the average value.

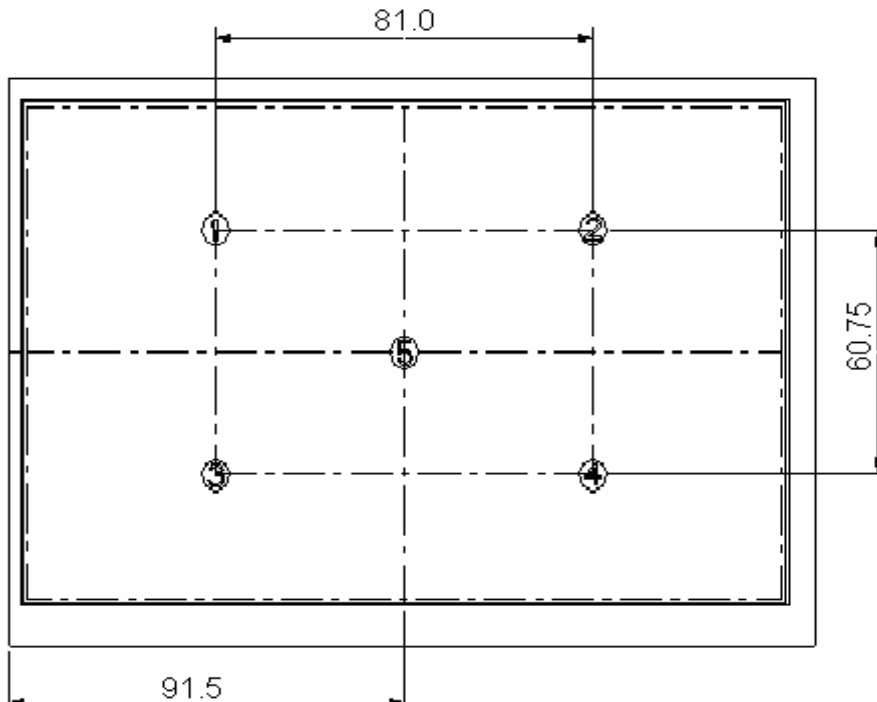


Fig.1 Measuring point



*3) Definition of Viewing Angle(θ, ψ),refer to Fig.2 as below :

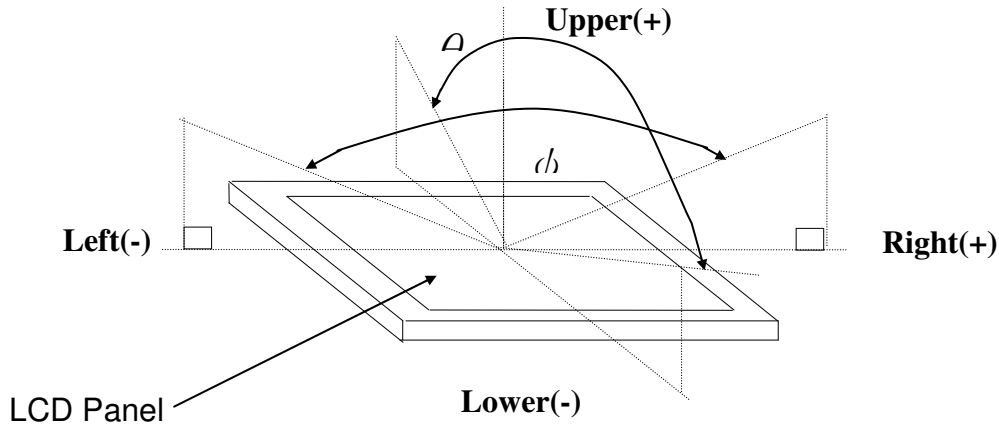


Fig.2 Definition of Viewing Angle

*4) Definition of Luminance Uniformity

Measure maximum luminance(L(MAX))and minimum luminance (L(MIN))on the 5 points as figure 1.Luminance Uniformity is calculated with the following formula :

$$\Delta L = [L(\text{MAX})/L(\text{MIN})-1] \times 100$$

*5) Definition of Response Time.

The response time is defined as the time interval between the 10% and 90% amplitudes.Refer to figure 3 as below.

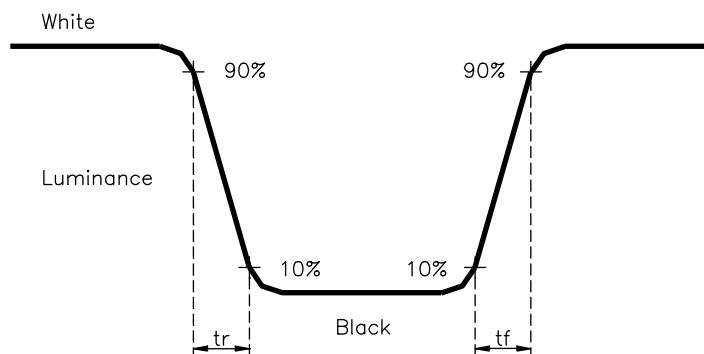


Fig.3 Definition of Response Time



7. RELIABILITY TEST CONDITIONS

(1) Temperature and Humidity

TEST ITEMS	CONDITIONS
HIGH TEMPERATURE OPERATION	75° C ; 240Hrs
HIGH TEMPERATURE AND HIGH HUMIDITY OPERATION	45° C ; 90% RH ; 240Hrs
HIGH TEMPERATURE STORAGE	85° C ; 240Hrs
LOW TEMPERATURE OPERATION	-25° C ; 240Hrs , Backlight unit always turn on
LOW TEMPERATURE STORAGE	-35° C ; 240Hrs
THERMAL SHOCK (No operation)	-35° C (0.5Hr) ~ 85° C (0.5Hr) 200 CYCLE

(2) Shock & Vibration

TEST ITEMS	CONDITIONS
Shock (Non-Operation)	<ul style="list-style-type: none"> ● Shock level: 980m/s²(equal to 100G). ● Waveform: half sinusoidal wave,6ms. ● Number of shocks: one shock input in each direction of three mutually perpendicular axes for a total of three shock inputs.
Vibration (Non-Operation)	<ul style="list-style-type: none"> ● Frequency range:8~33.3Hz ● Stoke : 1.3 mm ● Vibration: sinusoidal wave, perpendicular axis(both x,z axis: 2Hrs , y axis: 4Hrs). ● Sweep: 2.9G,33.3~400Hz ● Cycle: 15 min

(3) Judgment standard

The judgment of the above test should be made as follow:

Pass: Normal display image with no obvious non-uniformity and no line defect. Partial transformation of the module parts should be ignored.

Fail: No display image, obvious non-uniformity, or line defects.