

1. Scope

This manual defines general provisions as well as inspection standards for standard LCD module supplied by BeyondTek's manufacturer.

If the event of unforeseen problem or unspecified items may occur, please contact our company.

2. Warranty

If module is not stored or used as specified in this manual, it will be void the 12- month warranty.

3. Features

3-1. Features

Display Mode:	[Transmissive and Negative type FSTN LCD
Display Color:	[Display dot: White Background: Black
Display Format:	240(w) × 128(h) full dots
Input Data:	8-bit parallel data interface from a MPU
Multiplexing Ratio:	1/128 Duty
Viewing Direction:	6 O'clock
Backlight:	CCFL (White)
RAM Display capacity:	8k byte S-RAM (built-in)
Controller:	Toshiba T6963C or equivalent (built-in)

3-2. Mechanical features

Item	Specifications	Unit
Dimensional Outline	170.0(W)×103.5(H) ×13.0 Max.(T)	mm
Number of Dots	240(W) × 128(H) Dots	—
Viewing Area	132.0(W)×76.0(H)	mm
Active Area	119.97(W)×63.97(H)	mm
Dot Pitch	0.5(W) × 0.5(H)	mm
Dot Size	0.47(W) × 0.47(H)	mm
Weight	---	g

3-3. Absolute maximum rating

Item	Symbol	Min.	Max.	Unit	Note
Supply Voltage	Logic	-0.3	7.0	V	Vss=0V
	LCD drive	0	28	V	
Input Voltage	Vi	-0.3	Vdd+0.3	V	Vss=0V
Operating Temperature	Top	0	50		
Storage Temperature	Tstg	-20	70		
Humidity	—	—	90	%RH	

3-4. Electrical characteristics

3-4-1. Electrical characteristics

Note: <1> Duty =1/128 <2> All dots on static state

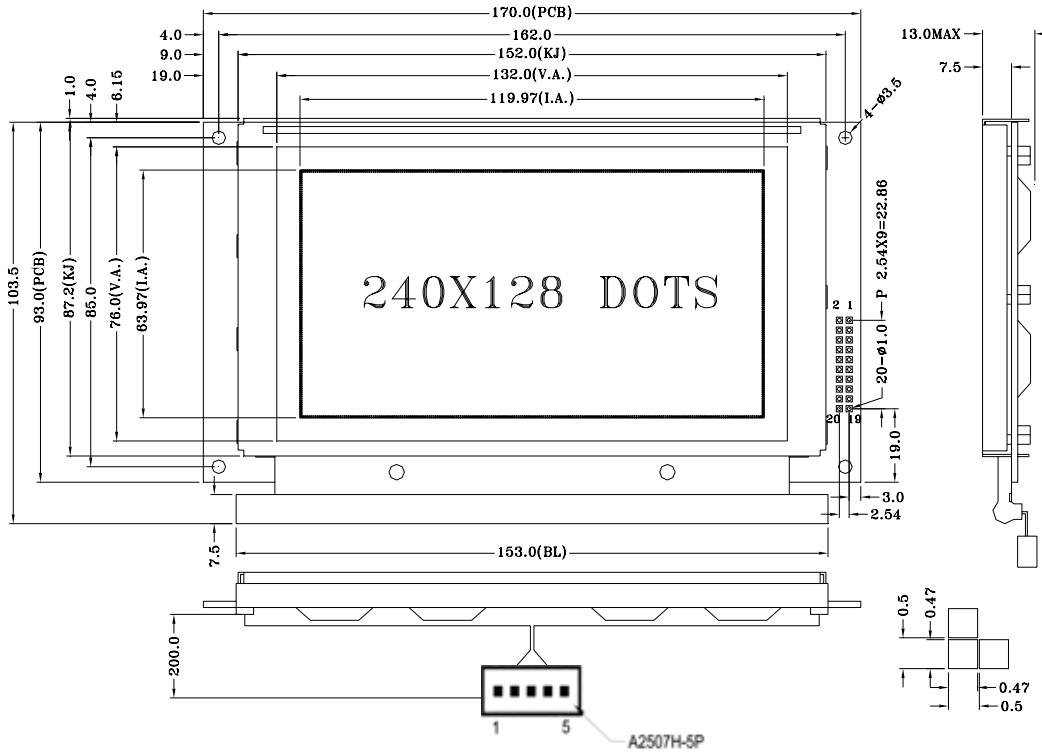
Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Supply Voltage	Logic	Vdd		4.5	5.0	5.5	V
	LCD drive	Vdd-Vee		—	17.5	18.0	
Input Voltage	"H" Level	Vih	Vdd=5V ± 5%	Vdd-2.2	—	Vdd	
	"L" Level	Vil		0	—	0.8	
Output Voltage	"H" Level	Voh	Vdd=5V ± 5%	Vdd-0.3	—	Vdd	
	"L" Level	Vol		0	—	0.3	
Frame Frequency		Fflm	Vdd=5V	70	75	80	Hz
Current Consumption	Logic	Idd	Vdd=5V Vdd-Vee=17.5V	—	5.7	10.0	mA
	LCD drive	Iee	Fflm=75Hz	—	5.4	9.8	
LCD Driving Voltage (Recommended Voltage)		Vdd-Vee	Ta= 0 =0 °, =0 °	—	18.0	—	V
			Ta= 25 =0 °, =0 °	—	17.5	—	
			Ta= 50 =0 °, =0 °	—	17.0	—	

3-4-2. Specifications for CCFL backlight

Note<1>: Half value of initial brightness at 20 60%RH

Item	Unit	Standard Values			Conditions
		Min.	Typ.	Max.	
Supply Voltage	V	—	400	—	—
Supply Frequency	KHz	33	55	80	—
Initial Brightness	cd/m ² (nit)	600	800	—	AC100 Vrms, 400Hz, dark room
Current	mA/cm ²	4	6	8	AC100 Vrms, 400Hz, dark room
Life time	Hrs	30000			Note <1>
Luminous Color	—	White			AC100 Vrms, 400Hz, dark room
Operating Temp.		-20 ~ 70			—
Storage Temp.		-30 ~ 85			—

4. Dimensional outline



5. I/O terminals

5-1. I/O connection table

Pin No.	Symbol	Function
1	FGND	Ground of frame
2	GND	Ground
3	VDD	Power supply voltage (Positive)
4	V0	Power supply voltage (Negative)
5	WR	Write Enable Signal
6	RD	Read Enable Signal
7	CE	Chip Enable Signal
8	C/D	Command/Data Selected Signal
9	N/C	No Connection
10	RESET	Reset Signal
11	DB0	Data Bus
12	DB1	Data Bus
13	DB2	Data Bus
14	DB3	Data Bus
15	DB4	Data Bus
16	DB5	Data Bus
17	DB6	Data Bus
18	DB7	Data Bus
19	FS	Font set
20	RV	Display area set