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REVISION HISTORY

Version	Date	Section	Description
Ver. 1.0	Mar., 01 '06	All	M220Z1-L01 Specifications was first issued ◦
Ver. 1.1	Mar., 30 '06	2.1	Modify ABSOLUTE RATINGS OF ENVIRONMENT
		3.2	Modify BACKLIGHT UNIT
		7.2	Modify OPTICAL SPECIFICATIONS
		8.2	Modify Packing method
Ver 1.2	May,08 '06	2.1	Revise Vibration max value
Ver 2.0	May,31 '06	8.1	Add (3) Weight: 16.5 Kg (5 modules per box)
		2.2	Modify 2.2.2 BACKLIGHT UNIT
		3.2	Modify BACKLIGHT UNIT
			Modify OPTICAL CHARACTERISTICS

1. GENERAL DESCRIPTION

1.1 OVERVIEW

The M220Z1-L01 model is a 22 inch wide TFT-LCD module with a 4-CCFL Backlight Unit and a 30-pin 2ch-LVDS interface. This module supports 1680 x 1050 WSXGA⁺ (16:10 wide screen) mode and displays up to 16.7 millions colors. The inverter module for the Backlight Unit is not built in.

1.2 FEATURES

- Super wide viewing angle
- High contrast ratio
- Fast response time
- High color saturation (EBU Like Specifications)
- WSXGA⁺ (1680 x 1050 pixels) resolution
- DE (Data Enable) only mode
- LVDS (Low Voltage Differential Signaling) interface

1.3 APPLICATION

- Workstation & desktop monitor
- Display terminals for AV application

1.4 GENERAL SPECIFICATIONS

Item	Specification	Unit	Note
Diagonal size	558.68	mm	
Active Area	473.76x296.1	mm	(1)
Bezel Opening Area	477.7 (H) x 300.1 (V)	mm	
Driver Element	a-Si TFT active matrix	-	-
Pixel Number	1680 x R.G.B. x 1050	pixel	-
Pixel Pitch	0.282(H) x 0.282(V)	mm	-
Pixel Arrangement	RGB vertical stripe	-	-
Display Colors	16.7 millions	color	-
Transmissive Mode	Normally White	-	-
Surface Treatment	Hard coating (3H), AG (Haze 25%)	-	-

1.5 MECHANICAL SPECIFICATIONS

Item		Min.	Typ.	Max.	Unit	Note
Module Size	Horizontal(H)	493.2	493.7	494.2	mm	(1)
	Vertical(V)	319.6	320.1	320.6	mm	
	Depth(D)	16	16.5	17	mm	
Weight				2800	g	
I/F connector mounting position		The mounting inclination of the connector makes the screen center within ±0.5 mm as the horizontal.				

Note (1) Please refer to the attached drawings for more information of front and back outline dimensions.

2. ABSOLUTE MAXIMUM RATINGS

2.1 ABSOLUTE RATINGS OF ENVIRONMENT

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Storage Temperature	T_{ST}	-20	+60	°C	(1)
Operating Ambient Temperature	T_{OP}	0	+50	°C	(1), (2)
Shock (Non-Operating)	S_{NOP}	-	50	G	(3), (5)
Vibration (Non-Operating)	V_{NOP}	-	1	G	(4), (5)
LCD Cell Life Time	L_{CELL}	50,000	-	Hrs	MTBF based

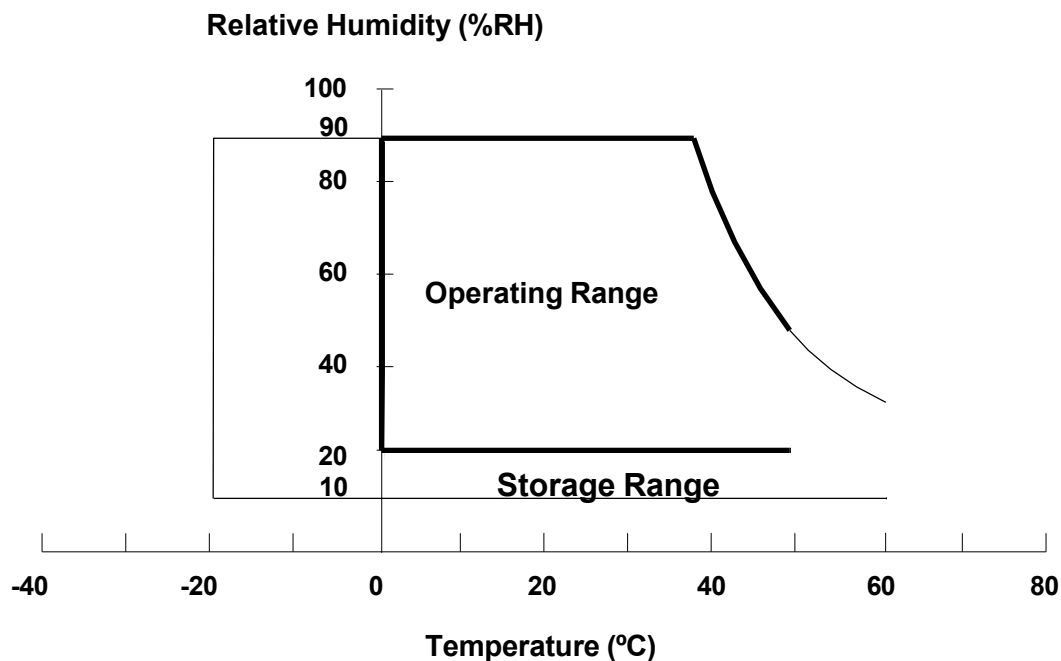
Note (1) Temperature and relative humidity range is shown in the figure below.

(a) 90% RH Max. ($T_a \leq 40^\circ\text{C}$).

(b) Wet-bulb temperature should be 39°C Max. ($T_a > 40^\circ\text{C}$).

(c) No condensation.

Note (2) The temperature of panel surface should be 0°C Min. and 60°C Max.



Note (3) 11 ms, half-sine wave, 1 time for $\pm X$, $\pm Y$, $\pm Z$.

Note (4) 10 ~ 300 Hz, sweep rate 10 min / cycle, 30 min for X, Y, Z axis

Note (5) Upon the Vibration and Shock tests, the fixture used to hold the module must be firm and rigid enough to prevent the module from twisting or bending by the fixture.

2.2 ELECTRICAL ABSOLUTE RATINGS

2.2.1 TFT LCD MODULE

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Power Supply Voltage	V _{CC}	-0.3	+5.5	V	(1)
Logic Input Voltage	V _{IN}	-0.3	+4.3	V	

2.2.2 BACKLIGHT UNIT

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Lamp Voltage	V _L	-	2.5K	V _{RMS}	(1), (2), I _L = 7.0 mA
Lamp Current	I _L	2.0	7.0	mA _{RMS}	
Lamp Frequency	F _L	50	80	KHz	(1), (2)

Note (1) Permanent damage might occur if the module is operated at conditions exceeding the maximum values.

Note (2) Specified values are for lamp (Refer to 3.2 for further information).

3. ELECTRICAL CHARACTERISTICS

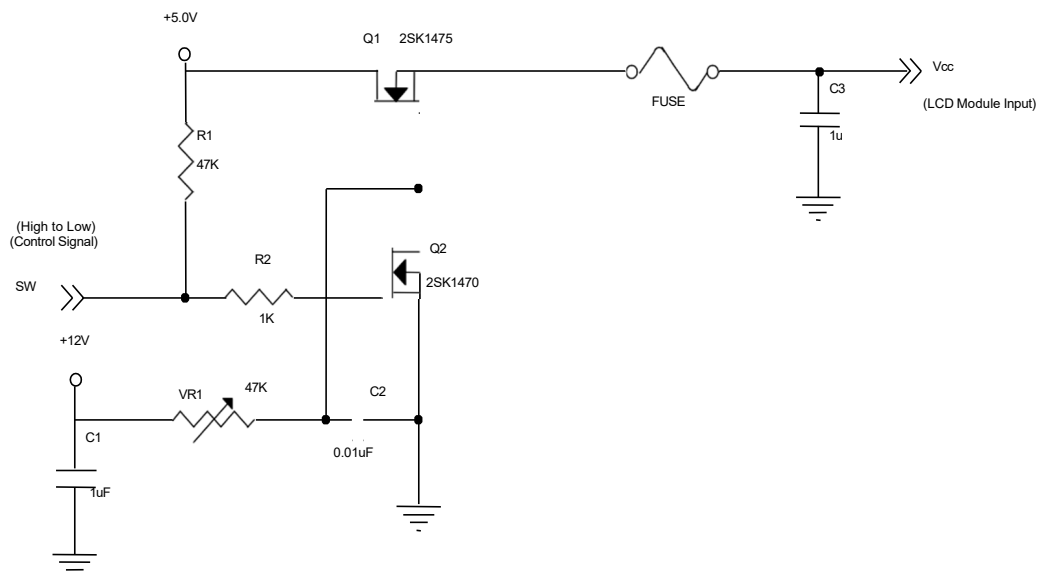
3.1 TFT LCD MODULE

$T_a = 25 \pm 2^\circ\text{C}$

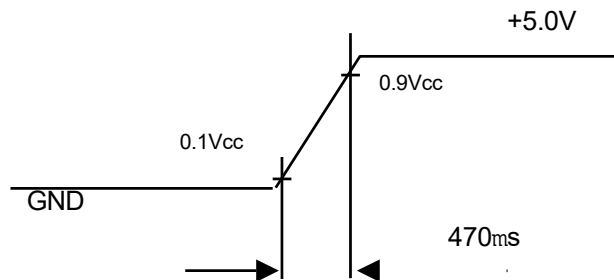
Parameter	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
Power Supply Voltage	V_{CC}	4.5	5.0	5.5	V	-
Ripple Voltage	V_{RP}	-	--	100	mV	-
Rush Current	I_{RUSH}	-	--	3	A	(2)
Power Supply Current	White	-	580		mA	(3)a
	Black	-	1100		mA	(3)b
	$f_V = 75\text{Hz}$, $V_{CC}=4.5\text{V}$	-	-	1230	mA	(4)
LVDS differential input voltage	V_{id}	-100	-	+100	mV	
LVDS common input voltage	V_{ic}	--	1.2	--	V	

Note (1) The module is recommended to operate within specification ranges listed above for normal function.

Note (2) Measurement Conditions:



Vcc rising time is 470ms



Note (3) The specified power supply current is under the conditions at $V_{cc} = 5.0\text{ V}$, $T_a = 25 \pm 2\text{ }^\circ\text{C}$, $f_v = 60\text{ Hz}$, whereas a power dissipation check pattern below is displayed.

a. White Pattern



Active Area

b. Black Pattern



Active Area

Note (4) The specified power supply current is under the conditions at $V_{cc} = 4.5\text{ V}$, $T_a = 25 \pm 2\text{ }^\circ\text{C}$, $f_v = 75\text{ Hz}$, whereas a power dissipation check pattern (Black Pattern) below is displayed.

Black Pattern



Active Area

以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：<https://d.book118.com/248021063023006023>