

TFT-LCD Specification

Model No: N141X201

Customer : _____

Approved by :

Note :

Liquid Crystal Division		
QRA Dept.	RD Dept.	System Dept.
Approval	Approval	Approval

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REVISION HISTORY

VERSION	Date	DESCRIPTION
Ver 1.0	Sep.10'99	Issue Preliminary Specification.
Ver 2.0	Nov.11'99	<u>Page 5</u> - Change Bezel opening area: 290.0(W) x 218.6(H) → 288.8(W)x217.4(H) - To revise the MECHANICAL SPECIFICATIONS <u>Page 6</u> - To Change the ABSOLUTE MAXIMUM RATINGS of Humidity - To add Notes statement in ELECTRICAL SPECIFICATIONS <u>Page 10</u> - 3.2 INPUT SIGNAL TIMING SPECIFICATIONS is modified and added the values which is TBD in version 1.0. <u>Page 11</u> - To revise the Tvdb interval in INPUT SIGNAL TIMING DIAGRAM. <u>Page 13</u> - The illustration of POWER UP/DOWN SEQUENCE is modify. <u>Page 14 ~ 17</u> - To revise the OPTICAL SPECIFICATIONS and modify the Illustration of Notes. <u>Page 18</u> - Add the PRECAUTION statement. <u>Page 20~21</u> - Add the illustration of PACKAGING method
Ver 2.1	Jan.25'00	Issue Approval Specification. <u>Page 5</u> - Add BLOCK DIAGRAM. <u>Page 6</u> - Change the humidity condition in ABSOLUTE MAXIMUM RATINGS. Old ->Operation : 20% ~ 90% relative humidity Non operation : 5% ~ 85% relative humidity New ->Operation : ≤ 85% relative humidity , Ta≤40°C Storage : ≤ 85% relative humidity , Ta≤50°C - Add rush current specification in ELECTRICAL SPECIFICATIONS. <u>Page 14</u> - Change Response Time in OPTICAL SPECIFICATIONS Old ->Tr = 20 ms (typ.)/35 ms (max.) Tf = 30 ms (typ.)/45 ms (max.) New -> Tr = 15ms (typ.)/30 ms (max.) Tf = 35 ms (typ.)/50 ms (max.)
Ver 2.2	Feb.17'00	<u>Page 6</u> - Change the lamp current from 3mA to 2mA(min.) <u>Page 23 ~ 24</u> - To revise the OUTLINE drawing on the attached page.
Ver 2.3	Mar. 7'00	<u>Page 6</u> - Change the humidity condition in ABSOLUTE MAXIMUM RATINGS

REVISION HISTORY (Continuation)

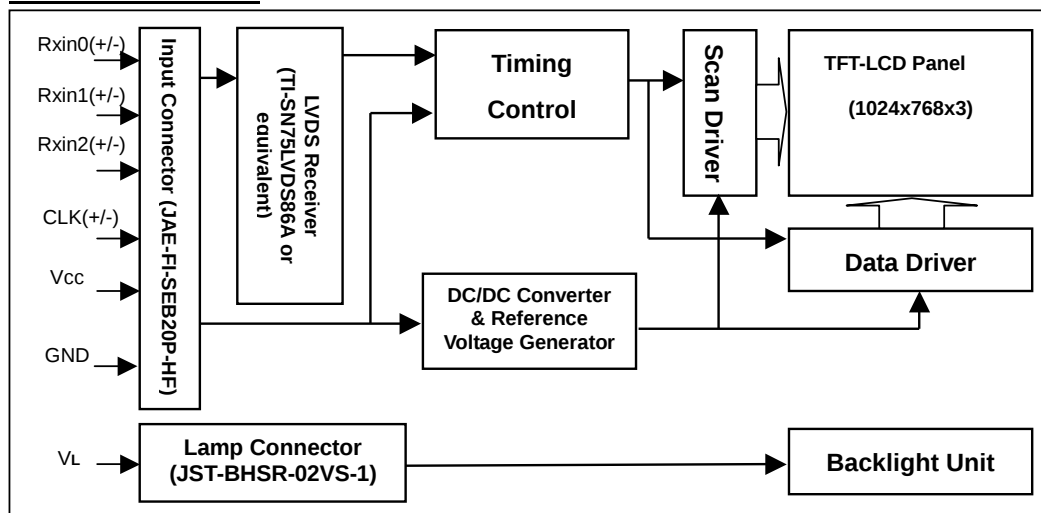
VERSION	Date	DESCRIPTION
Ver 2.4	Apr.11'00	Issue Approval Specification. <u>Page 5</u> - Change BLOCK DIAGRAM. <u>Page 6</u> - Change ABSOLUTE MAXIMUM RATINGS. - Change Rush Current on 2.ELECTRICAL SPECIFICATIONS: Old: 1.6(Typ.)→New: 0.7(Typ.) - Change Lamp Voltage on 2.ELECTRICAL SPECIFICATIONS: Old: -(Min.)/700(Typ.)/-(Max.)→New: 640(Min.)/720(Typ.)/790(Max.) - Change Lamp Current on 2.ELECTRICAL SPECIFICATIONS: Old: 7.0(Max.) → New: 6.5(Max.) - Change Lamp Operating Frequency on 2.ELECTRICAL SPECIFICATIONS: Old: 40(Min.)/55(Typ.)/70(Max.)→New: 45(Min.)/60(Typ.)/80(Max.) - Change Lamp Power Consumption on 2.ELECTRICAL SPECIFICATIONS: Old: 4.2(Typ.) → New: 4.3(Typ.) <u>Page 7 ~ 8</u> - Add Note(2) and change Notes No. <u>Page 10</u> - Change Rise time & Fall time of DCLK: Old: -(Max.)→New: 5.5(Max.) - Change Setup time & Hold time of DATA: Old: -(Min.)→New: 4(Min.) - Change Rise time & Fall time of DATA: Old: -(Max.)→New: 6(Max.) - Change Vertical period: Old: 771(Min.)/ 812(Max.) New: 777(Min.)/ 834(Max.) - Change Vertical display blank period: Old: 3(Min.)/ 44(Max.) New: 9(Min.)/ 66(Max.) - Change Vertical sync. back porch: Old: 44(Max.)→ New: 65(Max.) - Change Vertical sync. front porch: Old: 43(Max.)→ New: 65(Max.) - Change Horizontal period: Old: 1340(Min.)/ 1366(Max.) New: 1342(Min.)/ 1356(Max.) - Change Horizontal display blank period: Old: 178(Min.)/ 342(Max.) New: 318(Min.)/ 332(Max.) - Change Horizontal sync. back porch: Old: 0(Min.)→New: 24(Min.) <u>Page 11</u> - Change INPUT SIGNAL TIMING DIAGRAM. <u>Page 14 ~ 17</u> - Change 4. OPTICAL SPECIFICATIONS. <u>Page 19</u> - Change Figure 6-1 Mounting Screw Method. <u>Page 20</u> - Change Figure 7-1 Packing method. <u>Page 22</u> - Add 8. DEFINITION OF SHIPPING LABEL ON MODULE. <u>Attached drawing</u> - Change Mechanical Drawing.

GENERAL DESCRIPTION

OVERVIEW

This product is a 14.1" TFT Liquid Crystal Display Module with a Backlight unit and 20 pins LVDS (Low Voltage Differential Signal) interface. This module supports 1024 x 768 XGA mode and can display 262,144 colors. The inverter module for Backlight is not built in.

BLOCK DIAGRAM



APPLICATION

-Note Book PC

GENERAL SPECIFICATIONS

Item	Specifications	Unit
Screen Size	14.1 Diagonal	inch
Bezel opening area	288.8(W)x217.4(H)	mm
Effective display area	285.7(W)x214.3(H)	mm
Pixel number	1024 x R.G.Bx768	pixel
Pixel pitch	0.279(H)x0.279(V)	mm
Pixel Arrangement	R.G.B Vertical Stripe	-
Display Color	6 bits, 262,144	color
Transmissive mode	Normally white	-
Surface treatments	Hard coating(3H) and anti-glare	-

MECHANICAL SPECIFICATIONS

ITEM		MIN.	TYP.	MAX.	Unit
Module size	Horizontal	298	298.5	299	mm
	Vertical	227	227.5	228	mm
	Depth	-	5.8	6.1	mm
Weight		-	570	590	g

1. ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Values		Unit	Remarks
		Min.	Max.		
Power supply voltage	V_{CC}	-0.3	+4.0	V	Ta=25°C
Logic input voltage	V_{IN}	-0.3	$V_{CC}+0.3$	V	
Operating temperature	Tst	0	+50	°C	Module surface*
Storage temperature	Top	-20	+60	°C	-
Humidity	Operation	$\leq 85\%$ relative humidity			Ta $\leq 40^\circ\text{C}$
	Storage	$\leq 85\%$ relative humidity			Ta $\leq 50^\circ\text{C}$

*Measure at the active display area

2. ELECTRICAL SPECIFICATIONS

MODULE						
Parameter	Symbol	Value			Unit	Notes
		Min.	Typ.	Max.		
Power Supply Voltage	V_{CC}	3.0	3.3	3.6	V	(1)
"H" level LVDS signal input	V_{IH}	-	-	+100	mV	
"L" level LVDS signal input	V_{IL}	-100	-	-	mV	
Power Supply Current	I_{CC}	-	400	500	mA	
Rush Current	IRUSH	-	0.7	1.8	A	(2)
Ripple voltage	V_{RP}	-	50	-	mV	(1)
Terminating resistor	Rt	-	100	-	Ohm	

BACKLIGHT (1 Lamp)						Ta=25±2°C
Parameter	Symbol	Value			Unit	Notes
		Min.	Typ.	Max.		
Lamp Voltage	V_L	650	720	790	V_{RMS}	$I_L=6.0\text{mA}$
Lamp Current	I_L	2.0	6.0	6.5	mA	(3)
Startup Voltage	V_S	-	860	1030(25°C)	V_{RMS}	(4)
		-	1075	1300(0°C)	V_{RMS}	(4)
Operating Frequency	F_L	45	60	80	KHz	(5)
Power Consumption	P_L	-	4.3	-	W	(6), $I_L=6.0\text{mA}$
Lamp Life time	L_{BL}	10000	15000	-	Hrs	(7)

The connector information of Black light unit.

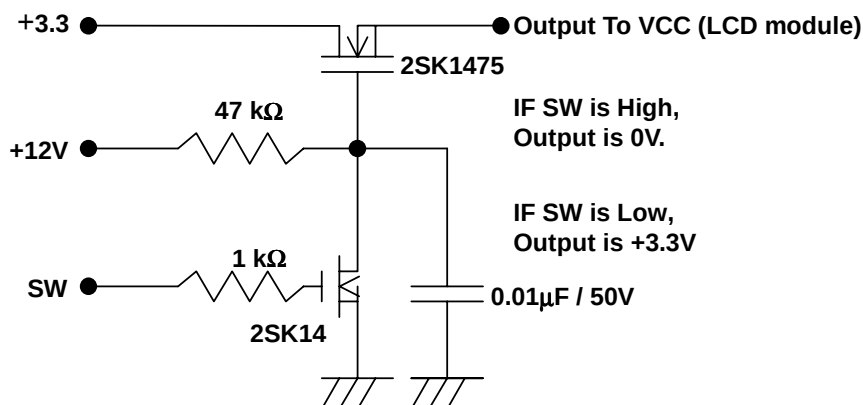
Pin	Symbol	Description	Remark
1	HV	Lamp power input	White
2	LV	Ground	Black

Connector Part No.: BHSR-02VS-1(JST)

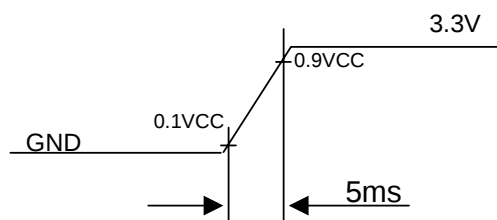
User's connector Part No.: SM02B-BHSS-1-TB (JST)

Note (1) The operating temperature range is 0 ~ 50 °C, and the power supply current is measured in black pattern.

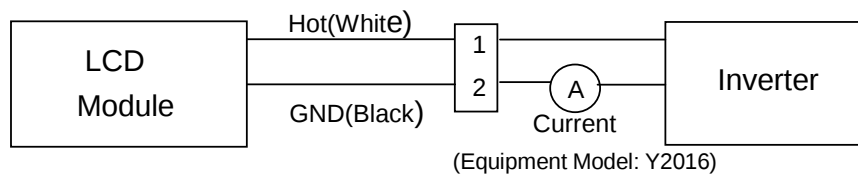
Note (2) Measurement Conditions



VCC rising time is 5ms



Note (3) Lamp current is measured by utilizing a current meter for high frequency as shown below:



Note (4) The voltage shown above should be applied to the lamp for more than 1 second after startup. Otherwise the lamp may not be turned on.

Note (5) The lamp frequency may produce interference with horizontal synchronous frequency from the display, and this may cause line flow on the display. In order to avoid interference the lamp frequency should be detached from the horizontal synchronous frequency and its harmonics as far as possible.

Note (6) $P_L = I_L \times V_L$.

Note (7) The lifetime (Hr) of a lamp can be defined as the time in which it continues to operate under the condition $T_a = 25 \pm 2^\circ\text{C}$ and $I_L = 6.0 \text{ mA rms}$ until one of the following event occurs:

- (1) When the brightness becomes 50% or lower than its original,
- (2) When the effective ignition length becomes 80% or lower than its original value.
(Effective ignition length is defined as an area that has less than 70% brightness compared to the brightness in the center point.)

Note (8) The waveform of the voltage output of inverter must be area-symmetric and the design of the inverter must have specifications for the modularized lamp. The performance of the backlight, such as lifetime or brightness, is greatly influenced by the characteristics of the DC-AC inverter for the lamp. All the parameters of an inverter should be designed with care so as not to produce too much current leakage from high-voltage output of the inverter. When designing or ordering the inverter, please make sure that a poor lighting caused by the mismatch of the backlight and the inverter (miss-lighting, flicker, etc.) never occurs. When the above situation is confirmed, the module should be operated in the same manners as it is installed in your instrument.

3. INTERFACE SPECIFICATIONS

3.1 THE PIN ASSIGNMENT OF INTERFACE CONNECTOR.

Pin	Symbol	Description	Notes
1	V _{CC}	Power supply +3.3 v	
2	V _{CC}	Power supply +3.3 v	
3	V _{SS}	Ground	
4	V _{SS}	Ground	
5	Rxin0-	LVDS differential data input (Negative)	R0~R5,G0
6	Rxin0+	LVDS differential data input (Positive)	
7	V _{SS}	Ground	
8	Rxin1-	LVDS differential data input (Negative)	G1~G5,B0,B1
9	Rxin1+	LVDS differential data input (Positive)	
10	V _{SS}	Ground	
11	Rxin2-	LVDS differential data input (Negative)	B2~B5,DE,Hsync, Vsync
12	Rxin2+	LVDS differential data input (Positive)	
13	V _{SS}	Ground	
14	CLK-	LVDS Clock Data input (Negative)	LVDS level
15	CLK+	LVDS Clock Data input (Negative)	
16	V _{SS}	Ground	
17	NC	Non-connection	
18	NC	Non-connection	
19	V _{SS}	Ground	
20	V _{SS}	Ground	

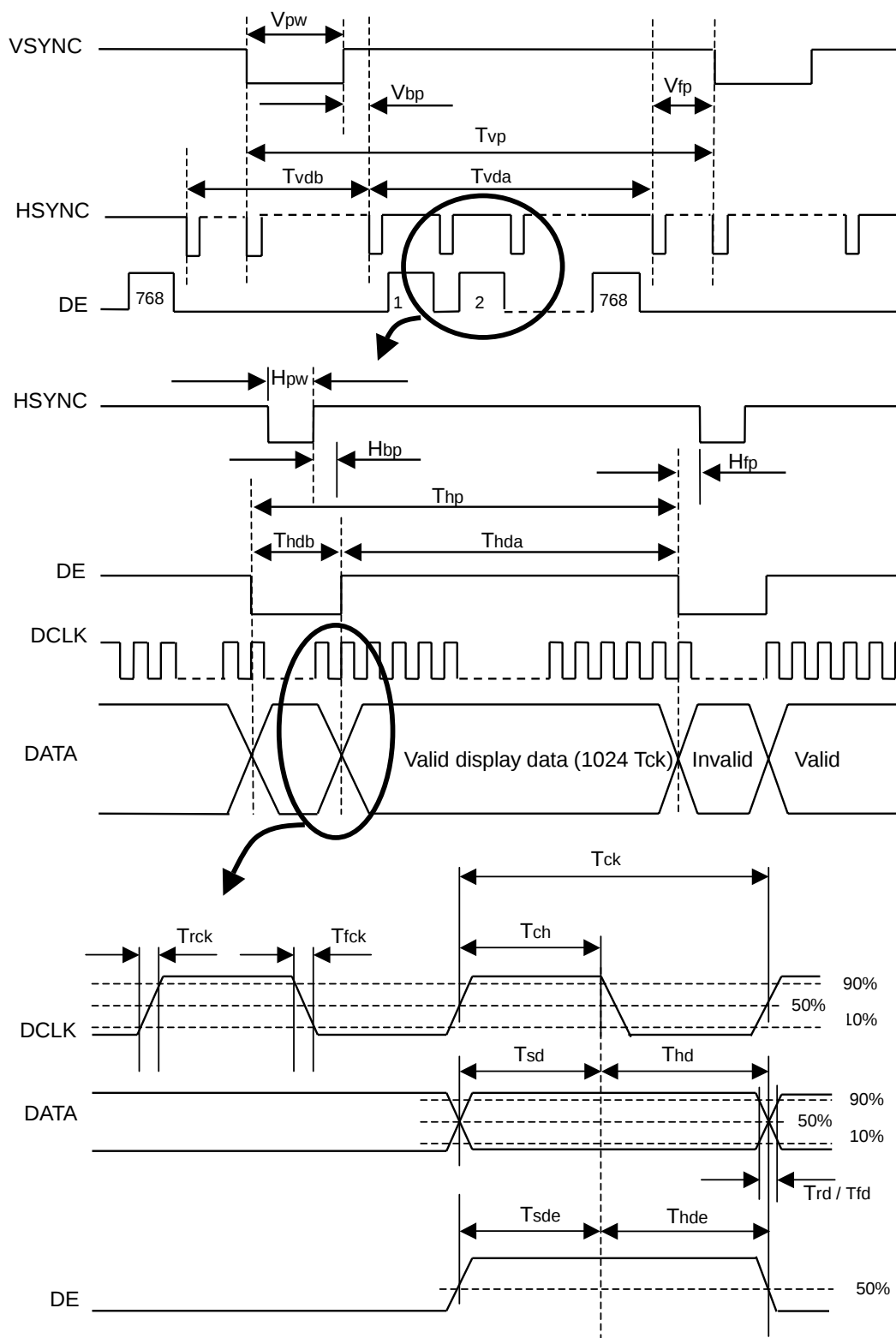
Connector Part No.: FI-SEB20P-HF13R (JAE) or Equivalent

User's connector Part No: FI-S20S or FI-SE20M (JAE)

3.2 INPUT SIGNAL TIMING SPECIFICATIONS

The specifications of input signal timing are as the following table and timing diagram.

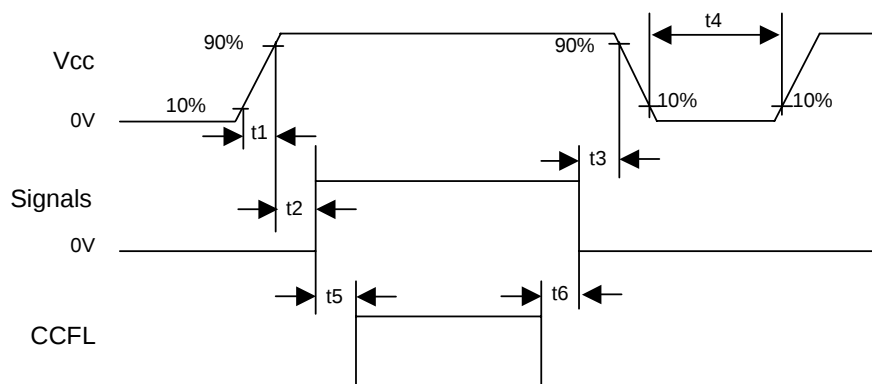
Signal	Parameter	Symbol	Min	Typ	Max	Unit	Remarks
DCLK	Pixel clock period	Tck	-	15	-	ns	
	Duty ratio (%Tch)	-	40	50	60	%	Tch/Tck
	Rise time	Trck	-	4.9	5.5	ns	
	Fall time	Tfck	-	4.7	5.5	ns	
DATA	Setup time	Tsd	4	-	-	ns	
	Hold time	Thd	4	-	-	ns	
	Rise time	Trd	-	5.5	6	ns	
	Fall time	Tfd	-	5.5	6	ns	
DE	Setup time	Tsde	3.5	4.0	-	ns	
	Hold time	Thde	3.5	4.2	-	ns	
VSYNC	Vertical period	Tvp	777	806	834	Thp	
	Vertical display blank period	Tvdb	9	38	66	Thp	
	Vertical display active period	Tvda	768	768	768	Thp	
	Vertical sync. back porch	Vbp	0	29	65	Thp	
	Vertical sync. front porch	Vfp	0	3	65	Thp	
	Vertical sync. pulse width	Vpw	1	6	66	Thp	
HSYNC	Horizontal period	Thp	1342	1344	1356	Tck	
	Horizontal display blank period	Thdb	318	320	332	Tck	
	Horizontal display active period	Thda	1024	1024	1024	Tck	
	Horizontal sync. back porch	Hbp	24	105	332	Tck	
	Horizontal sync. front porch	Hfb	0	70	307	Tck	
	Horizontal sync. pulse width	Hpw	1	145	308	Tck	

INPUT SIGNAL TIMING DIAGRAM

3.3 COLOR DATA INPUT ASSIGNMENT

Color		Data Signal																	
		Red						Green						Blue					
		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	0	1	0	0	0	0	0	0
	Green(2)	0	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	0
	Green(62)	0	0	0	0	0	0	1	1	1	1	1	0	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	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

3.4 POWER UP/DOWN SEQUENCE



Timing Specifications:

$$0 \leq t_1 \leq 10\text{ms}$$

$$0 \leq t_2 \leq 50\text{ms}$$

$$0 \leq t_3 \leq 50\text{ms}$$

$$t_4 \geq 1\text{s}$$

$$t_5 \geq 170\text{ms}$$

$$t_6 \geq 200\text{ms (min.)}$$

Note (1) Please avoid floating state of interface signal at invalid period.

Note (2) When the interface signal is invalid, be sure to pull down the power supply for LCD Vcc to 0V.

4. OPTICAL SPECIFICATIONS

4.1 TEST CONDITIONS

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

Ambient Humidity : $H_a = 50 \pm 10\% \text{RH}$

Supply Voltage : $V_{DD} = 3.3\text{V}$

Input Signal : According to typical value in "Electrical Characteristics"

FL Input Current : $I_L = 6.0\text{mA}$

FL Driving Frequency : $f_{FL} = 55\text{ kHz}$

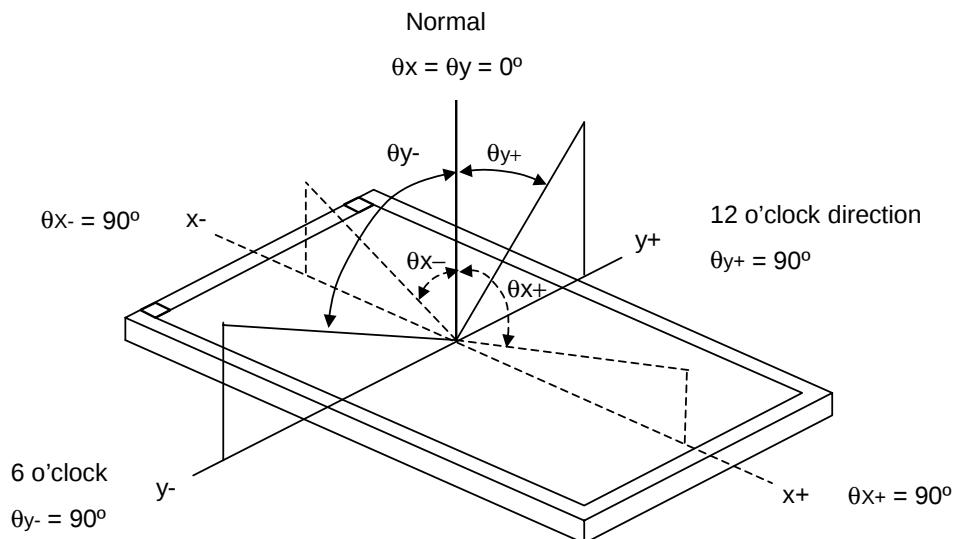
FL Inverter : QF38V6.4

The measuring method is shown in 4.2. The following items are measured under stable conditions. The optical characteristics should be measured in a dark room (Screen luminance < 2-lx) or equivalent state with the methods shown in Note (6).

4.2 OPTICAL SPECIFICATIONS

Item		Symbol	Conditions	Specifications			Unit	Note
				Min.	Typ.	Max.		
Central Luminance		L	$\theta_x = \theta_y = 0^\circ$ Viewing normal angle	120	150	-	cd/m ²	(2),(4),(6)
Contrast Ratio		CR		150	200	-	-	
Response Time		T _R		-	15	30	ms	(3)
		T _F		-	35	50	ms	
Average Luminance		L _{AVE}		100	130	-	cd/m ²	I _L =6.0mA _{rms} ,(4)
Chromaticity	Red	X _R		0.558	0.578	0.598		(1), (6)
		Y _R		0.311	0.331	0.351		
	Green	X _G		0.277	0.297	0.317		
		Y _G		0.550	0.570	0.590		
	Blue	X _B		0.129	0.149	0.169		
		Y _B		0.104	0.124	0.144		
	White	X _W		0.290	0.310	0.330		
		Y _W		0.310	0.330	0.350		
Viewing Angle	Hor.	θ _{X+}	Center CR≥10	40	45	50	deg.	
		θ _{X-}		40	45	50		
	Ver.	θ _{Y+}		10	15	20		
		θ _{Y-}		30	35	40		
Brightness Uniformity		Buni	θ _X = θ _Y =0° Viewing normal angle	1.0	1.4	1.6		(5)

Note (1) Definition of Viewing Angle θ_x and θ_y :



Note (2) Definition of Contrast Ratio:

The contrast ratio can be calculated by the following expression.

$$\text{Contrast Ratio (CR)} = L_{63} / L_0$$

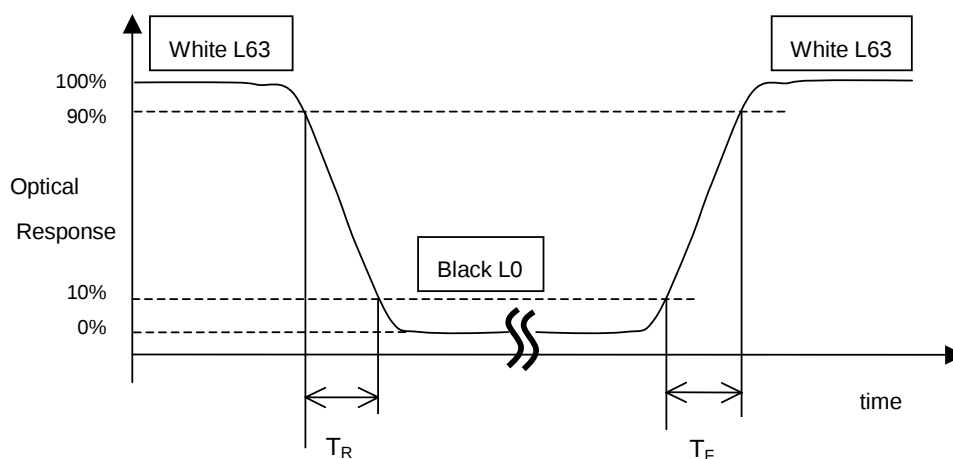
L_{63} : Luminance on the white raster (gray scale level L_{63})

L_0 : Luminance on the black raster (gray scale level L_0)

$$CR = (CR(1) + CR(2) + CR(3) + CR(4) + CR(5)) / 5$$

$CR(X)$ is correspond to the Contrast Ratio of a point of X at Figure of Note (6).

Note (3) Definition of Response time:

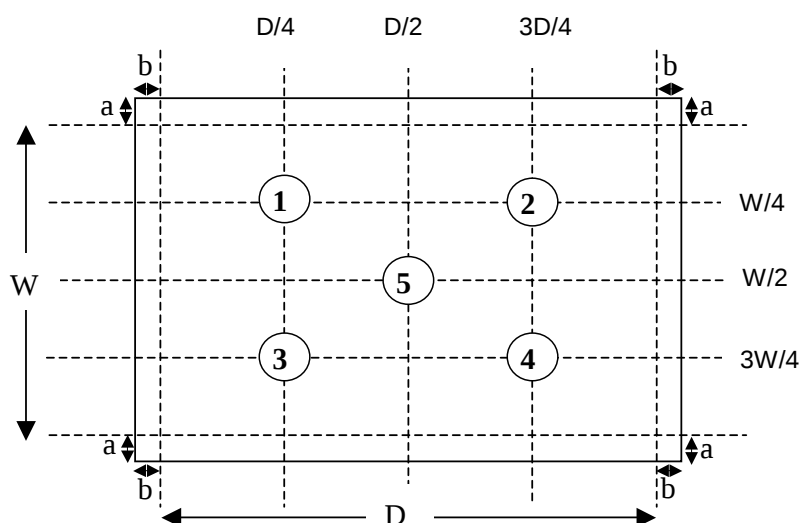


Note (4) Definition of Average Luminance:

The Average Luminance is defined as arithmetic mean value of five spots across the LCD surface at white state. The Luminance shall be measured with all pixels in the viewing field at white state. The measuring spots must be taken at the locations shown in the following figure, where $a = b = 15\text{mm}$.

$$L_{AVE} = \frac{L(1) + L(2) + L(3) + L(4) + L(5)}{5}$$

Luminance Measuring Points

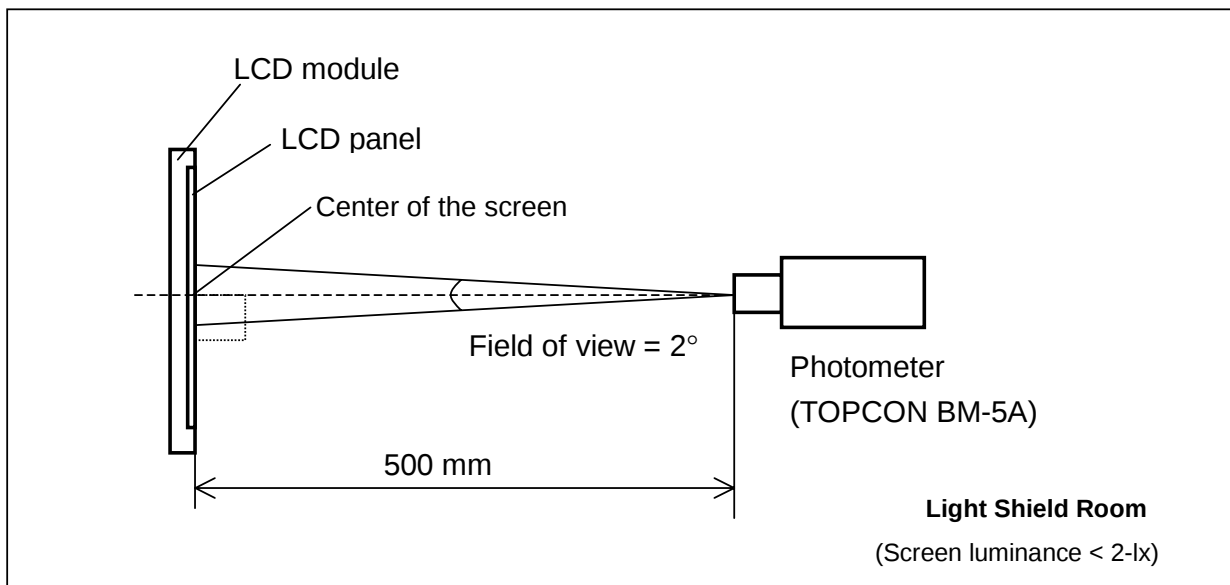


Note (5) Definition of Brightness Uniformity (Buni):

$$Buni = \frac{\text{Maximum luminance of 5 points}}{\text{Minimum luminance of 5 points}} \quad (\text{Note (4)})$$

Note (6) Measuring setup:

The measurement suppose to be executed after stabilized the panel at given temperature during 30min. in the case of abrupt temperature change. The measurement shall be executed 30 minutes after lighting at rating. The luminance of white should be typical luminance (Typical Condition $I_L=6.0\text{mA}$). In order to stable the luminance, LCD shall not be gotten winds.



5. MECHANICAL DRAWING

Please refer to the attached drawings.

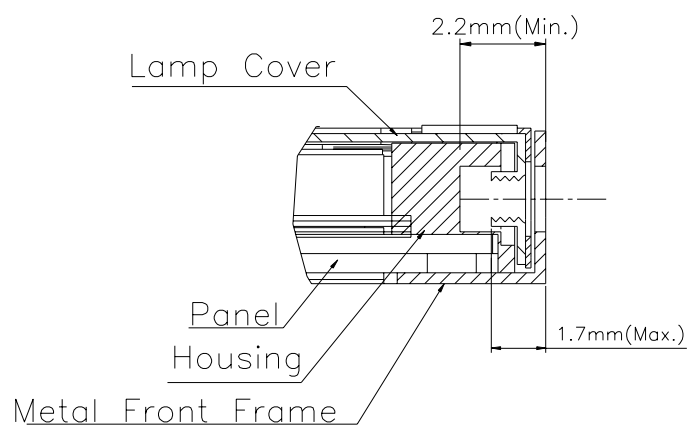
6. PRECAUTION

6.1 ASSEMBLY AND HANDLING PRECAUTION

- (1) Do not apply rough force such as bending or twisting to the module during assembly.
- (2) To assemble or install module into user's system can be only in clean working areas. The dust and oil may cause electrical short or worsen the polarizer.
- (3) It's not permitted to have pressure or impulse on the module because the LCD panel and backlight will be damaged.
- (4) Always follow the correct power sequence when LCD module is connecting and operating. This can prevent damage to the CMOS LSI chips during latchup.
- (5) Do not pull the I/F connector in or out while the module is operating.
- (6) Do not disassemble the module.
- (7) Use a soft dry cloth without chemicals for cleaning, because the surface of polarizer is very soft and easily scratched.
- (8) It is dangerous that moisture come into or contacted the LCD module, because moisture may damage LCD module when it is operating.
- (9) High temperature or humidity may reduce the performance of module. Please store LCD module within the specified storage conditions.
- (10) When ambient temperature is lower than 10°C may reduce the display quality. For example, the response time will become slowly, and the starting voltage of CCFL will be higher than room temperature.

6.2 SAFTY PRECAUTION

- (1) The startup voltage of backlight is approximately 1000 Volts. It may cause electrical shock while assembling with inverter. Do not disassemble the module or insert anything into the backlight unit.
- (2) If the liquid crystal material leaks from the panel, it should be kept away from the eyes or mouth. In case of contact with hands, skin or clothes, it has to be washed away thoroughly with soap.

Structure of joint

*Mounting Screw Depth:1.7mm(Min.),2.2mm(Max.)

*torque:1.3~1.5Kgf-cm

Figure 6-1 : Mounting Screw Method

7. PACKAGING

7.1 PACKING SPECIFICATIONS

- (1) 10 LCD modules / 1 Box
- (2) Box dimensions : 422(L) X 337(W) X 345(H) mm
- (3) Weight : approximately 7.0Kg (10 modules per box)

7.1 PACKING Method

The Figure. 7-1,2 show the packing method.

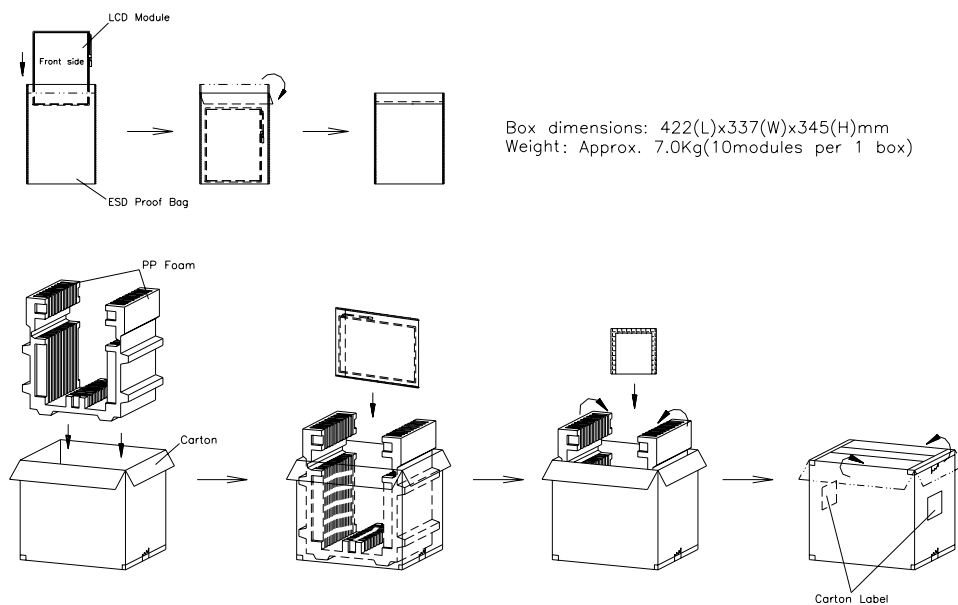
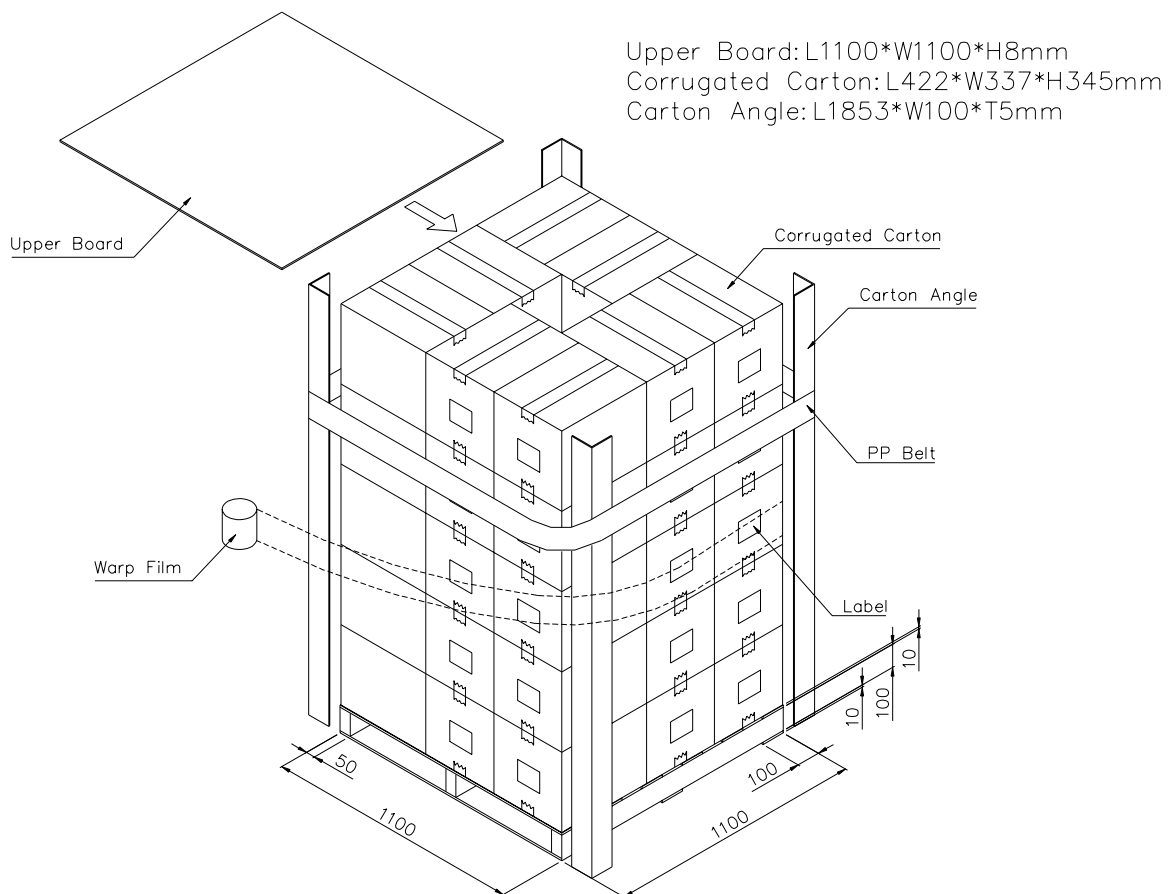
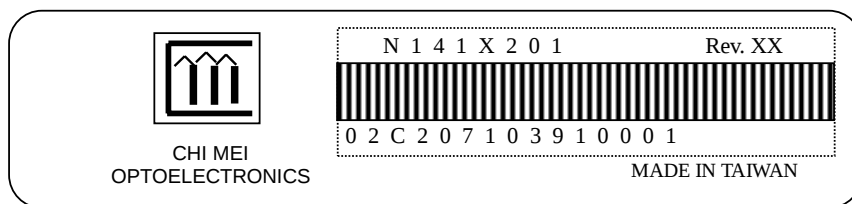


Figure. 7-1 Packing method

**Figure. 7-2 Packing method****8. DEFINITION OF SHIPPING LABEL ON MODULE**

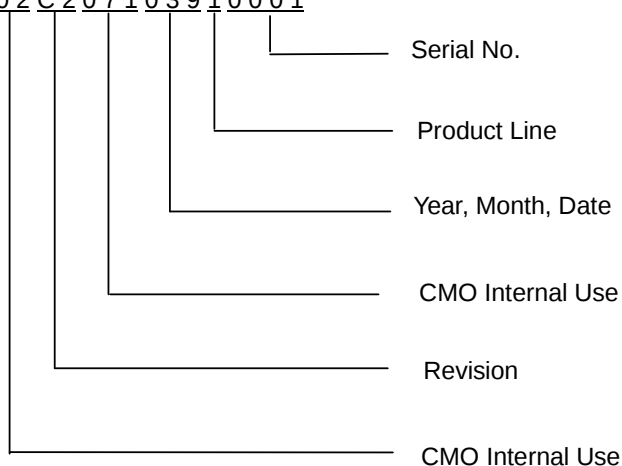
The barcode nameplate is pasted on each module as illustration, and its definitions are as following explanation.



(a) Model Name : N141X201

(b) Revision : Rev.XX, for example : C1, C2 ...etc.

(c) Serial ID Example : 0 2 C 2 0 7 1 0 3 9 1 0 0 0 1



Serial ID include the information as list.

(a) Manufactured Date : Year : 1~9, for 2000~2009

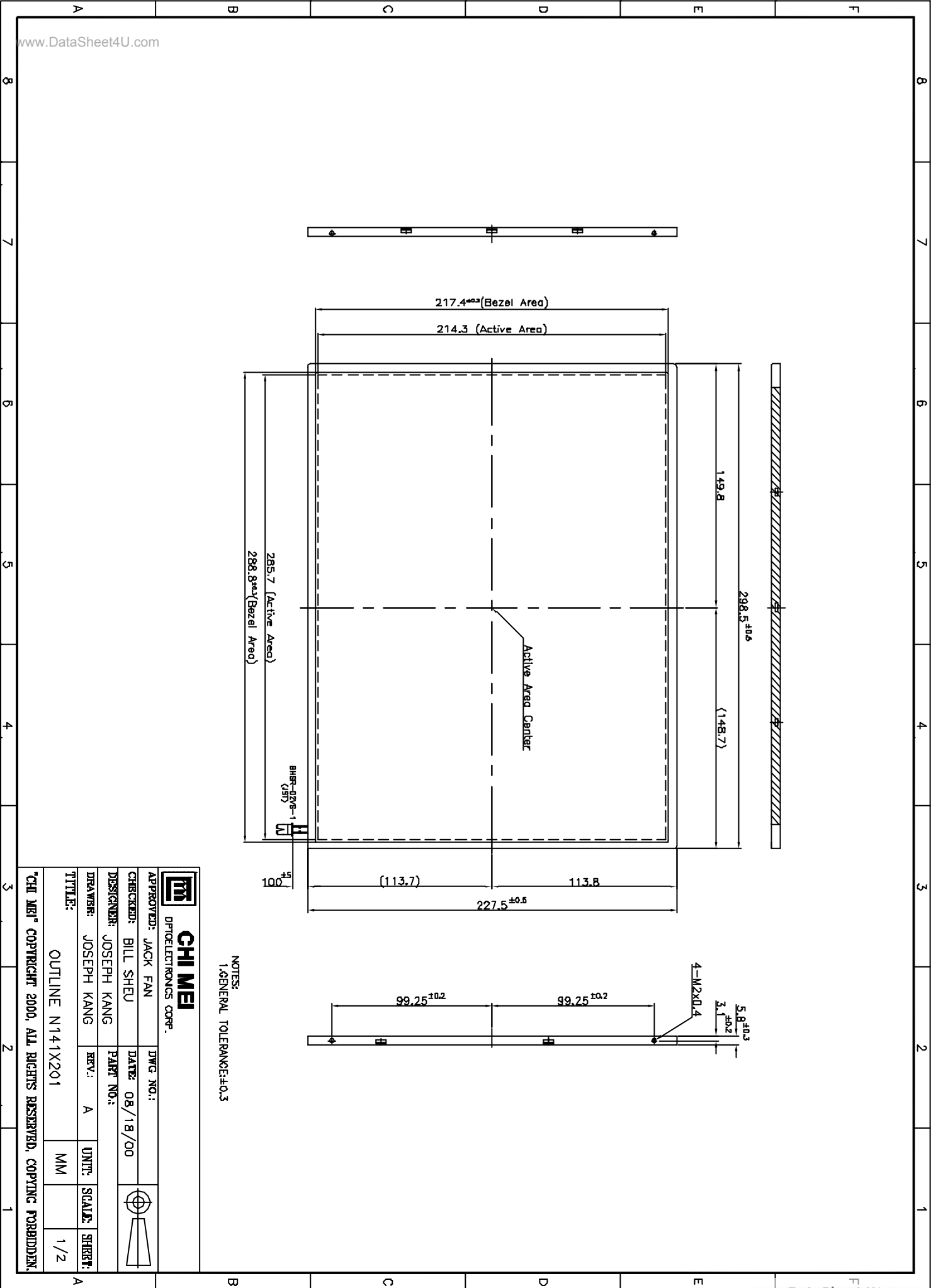
Month : 1~9, A~C, for Jan. ~ Dec.

Date : 1~9, A~Y, for 1st to 31st, exclude I and O

(b) Revision Code : cover all the change

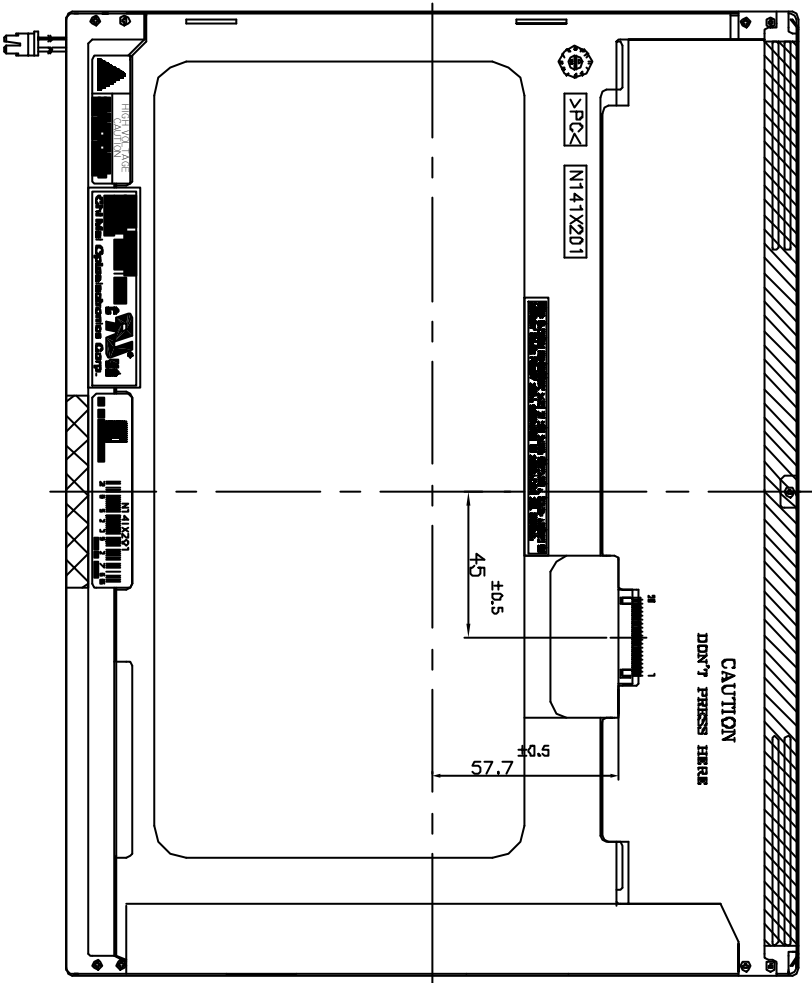
(c) Serial No. : Manufacturing sequence of product

(d) Product Line : 1 -> Line1, 2 -> Line 2 ...,etc.



			
CHI MEI OPTOELECTRONICS CORP.			
APPROVED:	JACK FAN	DWG. NO.:	
CHECKED:	BILL SHEU	DATE:	08/18/00
DESIGNER:	JOSEPH KANG	PART NO.:	
DRAWER:	JOSEPH KANG	REV.:	A
TITLE:	OUTLINE N141X201	UNIT:	MM
		SCALE:	
		SHEET:	1/2

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CHECKED:	BILL SHEU	DATE:	08/18/00			
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DRAWER:	JOSEPH KANG	REV.:	A	UNIT:	SCALE:	SHEET:
TITLE:		OUTLINE N141X201		MM		2/2

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