Product Description: T260XW02 TFT-LCD PANEL			
AUO Model Name: T260XW02 VJ			
Customer Part No/Project Name:			
Customer Signature	**Date**	AUO	**Date**
		Approved By: Yu Chieh Lin	
		Reviewed By: Hong Jye Hong	
		Prepared By: CT Wu	

Document Version : 1
Date : 2007/02/27

Product Specifications

26” WXGA Color TFT-LCD Module
Model Name: T260XW02 VJ

( ) Preliminary Specifications
(*) Final Specifications

Revision History			
VER.	Date	ECN NO.	Change Content
1	2007/02/27		Change to AUO Spec Format =T260XW02 VJ

Content List

1. Application

This specification applies to a color TFT-LCD module, T260XW02 VJ

2. Overview

This module is a color active matrix LCD module incorporating amorphous silicon TFT (Thin Film Transistor). It is composed of a color TFT-LCD panel; driver ICs, control circuit and power supply circuit and a backlight unit. Graphics and texts can be displayed on a 1366×3×768 dots panel with 16.7 million colors by using the LVDS (Low Voltage Differential Signaling) interface, 8-bit driving method and supplying +5V DC supply voltage for TFT-LCD panel driving.

The TFT-LCD panel used for this module has fast response time. A low-reflection and higher-color-saturation type color filter is also used for this panel. Therefore, high-brightness and high-contrast image, which is suitable for multimedia use, can be obtained by using this module.

[Features]

1) High aperture panel; high brightness
2) Brilliant and high contrast image
3) High speed response
4) WXGA resolution, 16:9
5) LVDS interface
6) QSV technology
7) Over shoot driving technology
8) Wide viewing angle

3. General Specifications

Parameter	Specifications	Unit
Display size	66.05 (26.0") Diagonal	cm
Active area	575.769 (H)×323.712 (V)	mm
Pixel format	1366 (H)×768 (V)	Pixel
	(1 pixel = R+G+B dots)	
Pixel pitch	0.4215(H) × 0.4215(V)	mm
Pixel configuration	R,G, B vertical stripe	
Display mode	Normally Black	
Unit outline dimensions	626.0 (W)×373.0 (H)×48.0(D)	mm
Weight	3800	g
Surface treatment	Anti-glare, low reflection coating and hard-coating 2H	
Lamp Quantity	16 straight lamps	pcs

4. Input Terminals

4-1. TFT-LCD panel driving pin assignment

CN1 (Interface signals and +5V DC power supply)

Using connector: FI-X30SSL-HF (JAE) or equivalent

Mating connector: cable type FI-X30HL, FI-X30HL-T, FI-X30H, FI-X30M, FI-X30C2EL, FI-X30C2L, FI-X30C2L-T, FI-X30C, FI-X30M, JF04X0X030 (JAE)

Pin NO.	Symbol	Function	Remark
1	V_{CC}	+5V input	【Note 3】
2	V_{CC}	+5V input	
3	V_{CC}	+5V input	
4	V_{CC}	+5V input	
5	GND	Power Ground	【Note 1】
6	GND	Power Ground	
7	GND	Power Ground	
8	GND	Power Ground	
9	LVDS SELECT	Low for Normal (NS), High/Open for JEIDA	【Note 2, 4】 Default JEIDA type.
10	NC	Open	
11	GND	Ground	
12	RXIN0-	LVDS data input (-)	
13	RXIN0+	LVDS data input (+)	
14	GND	Ground	
15	RXIN1-	LVDS data input (-)	
16	RXIN1+	LVDS data input (+)	
17	GND	Ground	
18	RXIN2-	LVDS data input (-)	
19	RXIN2+	LVDS data input (+)	
20	GND	Ground	
21	RXCLK-	Clock signal (-)	
22	RXCLK+	Clock signal (+)	
23	GND	Ground	
24	RXIN3-	LVDS data input (-)	
25	RXIN3+	LVDS data input (+)	
26	GND	Ground	
27	R/L	Horizontal shift direction	【Note 5】 Default L:GND
28	U/D	Vertical shift direction	【Note 5】 Default L:GND
29	Reserved	Open	
30	Reserved	Open	

【Note 1】All GND(ground) pins should be connected together and to V_{CC} which should

also be connected to the LCDs metal frame.

【Note 2】Relation between LVDS signals and actual data shows below section (7-1).

【Note 3】All V_{CC} (power supply) pins should be connected together.

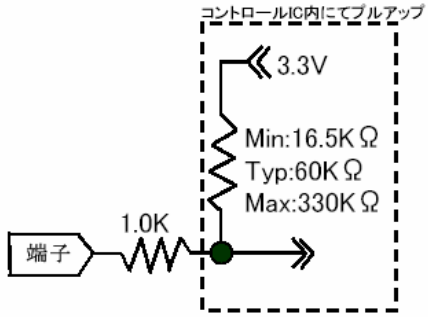
【Note 4】LVDS Select

Transmitter		SELLVDS	
Pin No	Data	=L(GND)	=H(3.3V) or Open
51	TA0	R0(LSB)	R2
52	TA1	R1	R3
54	TA2	R2	R4
55	TA3	R3	R5
56	TA4	R4	R6
3	TA5	R5	R7(MSB)
4	TA6	G0(LSB)	G2
6	TB0	G1	G3
7	TB1	G2	G4
11	TB2	G3	G5
12	TB3	G4	G6
14	TB4	G5	G7(MSB)
15	TB5	B0(LSB)	B2
19	TB6	B1	B3
20	TC0	B2	B4
22	TC1	B3	B5
23	TC2	B4	B6
24	TC3	B5	B7(MSB)
27	TC4	NA	NA
28	TC5	NA	NA
30	TC6	DE(*)	DE(*)
50	TD0	R6	R0(LSB)
2	TD1	R7(MSB)	R1
8	TD2	G6	G0(LSB)
10	TD3	G7(MSB)	G1
16	TD4	B6	B0(LSB)
18	TD5	B7(MSB)	B1
25	TD6	NA	NA

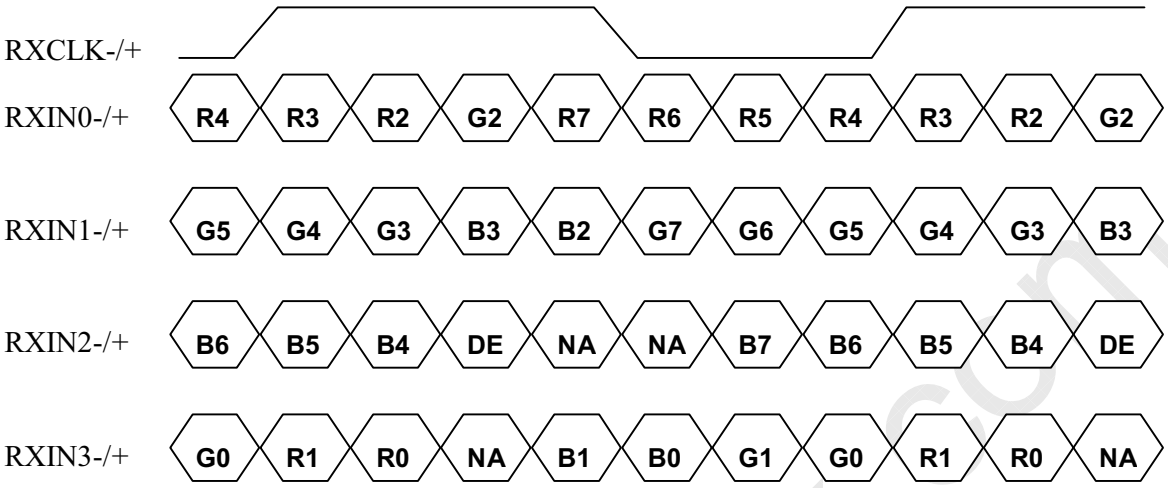
NA: Not Available

(*) Since the display position is prescribed by the rise of DE (Display Enable) signal, please do not fix DE signal during operation at "High."

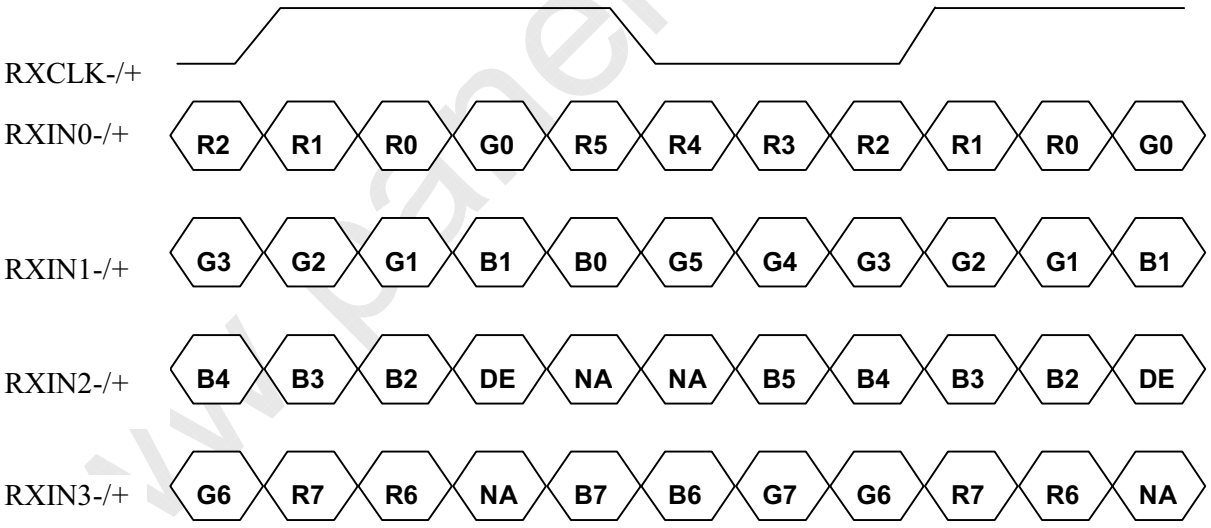
The equivalent circuit figure of the terminal:



SELLVDS=High(3.3 V)/ Open



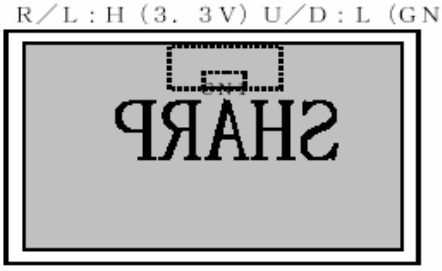
SELLVDS=LOW (GND)



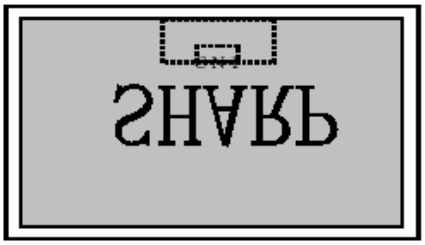
【Note 5】 **Display reversal function**

①Normal (Default)
R／L：L（GND） U／D:L（GND）

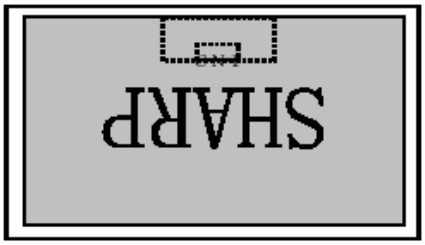
②Horizon reverse image
R／L：H（3．3V） U／D：L（GND）



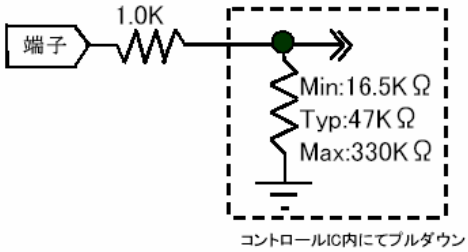
③Vertical reverse image
R／L：L（GND） U／D:H（3．3V）



④Horizon and vertical image
R／L：H（3．3V） U／D:H（3．3V）



The equivalent circuit figure of the terminal:



4-2 Over Shoot driving pin assignment

O/S driving pin assignment and function as following,

Using connector (CN2): SM07B-SRSS-TB-A (JST) or equivalent.

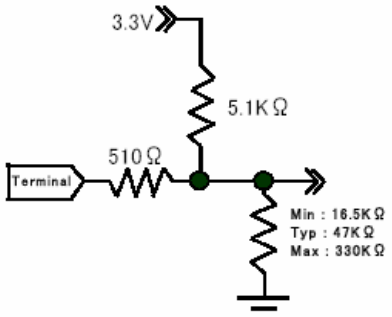
Mating connector: SHR-07V-S or SHR-07V-S-B (JST)

Pin NO.	Symbol	Function	Default	Remark
1	Frame	Frame frequency setting H:60Hz, L:50Hz	Pull up: 3.3V	【Note 2】
2	O/S test	O/S operation setting H:O/S_ON, L:O/S_OFF	Pull up: 3.3V 【Note 1】	【Note 2】
3	Test	GND	GND	【Note 2, 3】
4	Temp3	Data3 of panel surface temperature	Pull up: 3.3V	【Note 2, 3】
5	Temp2	Data2 of panel surface temperature	Pull up: 3.3V	【Note 2, 3】
6	Temp1	Data1 of panel surface temperature	Pull up: 3.3V	【Note 2, 3】
7	GND	GND		

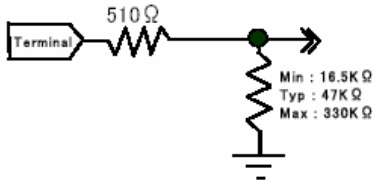
Remark: L stands for low level voltage (GND).
H stands for high level voltage (3.3V).

【Note 1】Temp 1~3 should be "L" when the O/S setting is "L", i.e O/S_OFF.

【Note 2】The equivalent circuit figure of the terminal.



【Note 3】The equivalent circuit figure of the terminal.



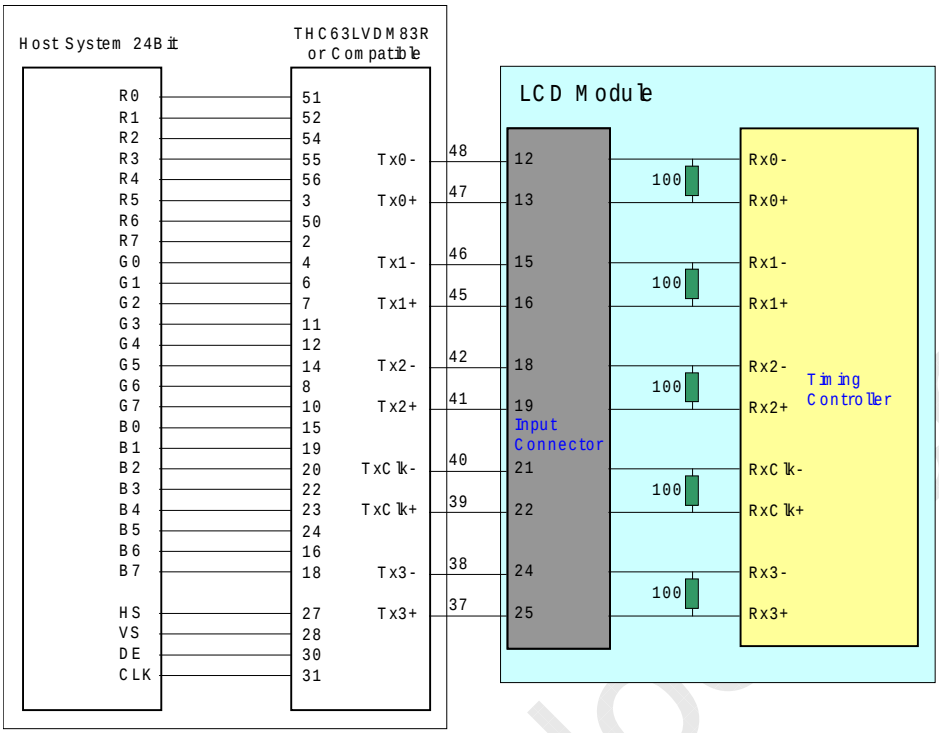
According the surface temperature of the panel (center), enter the optimum 3 bit signal into CN2 pin 4, 5, 6 to achieve O/S control.

Pin no.	Surface temperature of panel							
	0~5°C	5~10°C	10~15°C	15~20°C	20~25°C	25~30°C	30~35°C	≥35°C
4	L	L	L	L	H	H	H	H
5	L	L	H	H	L	L	H	H
6	L	H	L	H	L	H	L	H

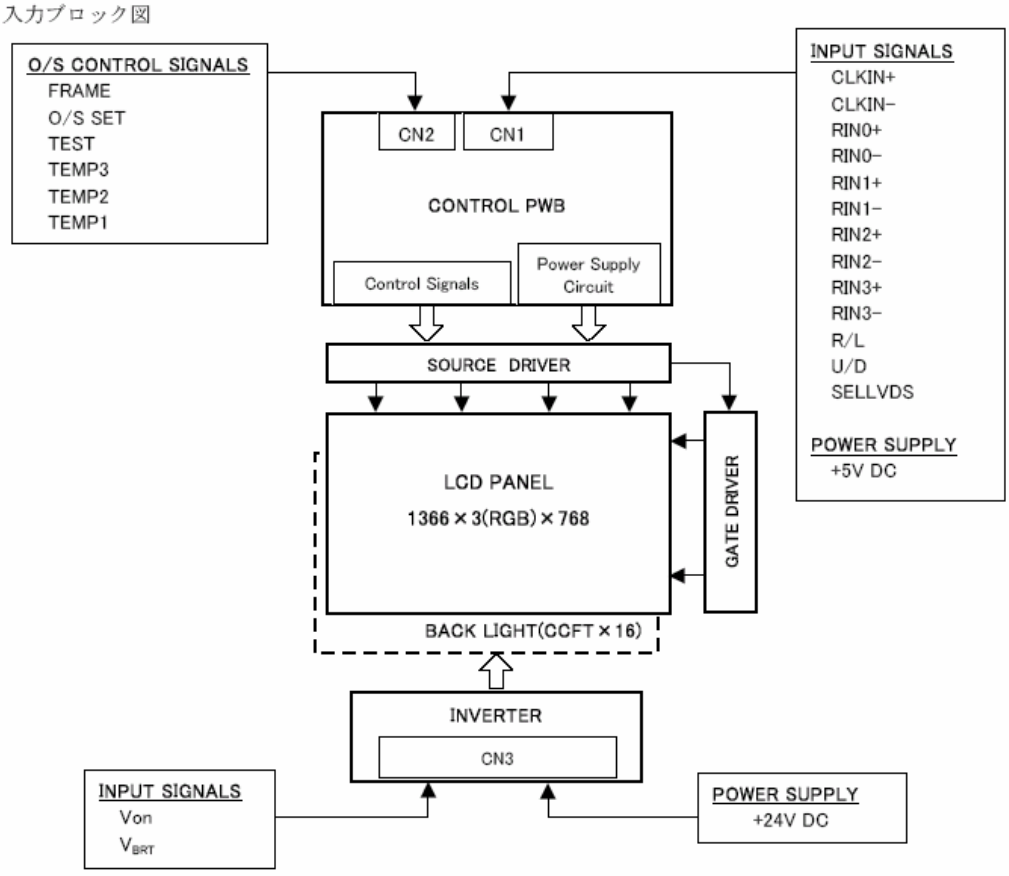
Remark: 1. L: low level voltage (GND); H: high level voltage (3.3V).
2. Optimum parameters option depends on display performance at over-lapping temperatures (such as 5/10/15/20/25/30/35degC)

4-2 Interface block diagram

Corresponding transmitter: THC63LVDM83R (Thine) or equivalent device.



・入力ブロック図



4-3. Backlight driving

4-3-1. Inverter connector

Using connector as following:

Connector	Type
CN3	B14 B-PH-SM3 TB (JST) or equivalent

Mating connector: PHR-14 (JST)

4-3-2 Pin assignment of inverter (CN3)

Pin No.	Symbol	Description	Remark
1	V_{DD}	+24V DC	
2	V_{DD}	+24V DC	
3	V_{DD}	+24V DC	
4	V_{DD}	+24V DC	
5	V_{DD}	+24V DC	
6	GND	Ground	
7	GND	Ground	
8	GND	Ground	
9	GND	Ground	
10	GND	Ground	
11	Reserved	Open	
12	BRTC	Backlight On/OFF signal	On : High (5.0V), Off : Low (0V)
13	BRTI	Luminance controlled by voltage method	【Note 1】
14	SGND	Open	

【Note 1】 Analog PWM – Pin no. 13 is used for the dimming control with input voltage from 0 to 3.3V.

	MIN	TYP	MAX	Function
Input voltage (V)	0	<->	3.3	0V: Dark 3.3V: Bright
Brightness ratio (%)	25	<->	100	

5. Absolute Maximum Ratings

LCD module

Parameter	Symbol	Condition	Ratings	Unit	Remark
Input Voltage (for control)	VI	Ta=25℃	-0.3 ~ +5.0	V_{DC}	【Note1】
5 V Supply Voltage (for Pannel)	V_{CC}	Ta=25℃	0 ~ +6.0	V_{DC}	
Input Voltage (for inverter)	V_{brt}	Ta=25℃	0 ~ +6.0	V_{DC}	【Note2】
24V supply voltage (for Inverter)	V_{INV}	Ta=25℃	0 ~ +29	V_{DC}	
Storage temperature	Tstg	—	-25 ~ +60	℃	【Note3】
Operating temperature (Ambient)	Topa	—	0 ~ +50	℃	

【Note1】LVDS SELECT, R/L, U/D, Frame O/S SET, Temp3/2/1, TEST

【Note2】BRTC,BRTI

【Note3】Humidity：95%RH Max. at Ta≦40℃.
Maximum wet-bulb temperature at 39℃ or less at Ta>40℃.
No condensation.

6. Electrical Characteristics

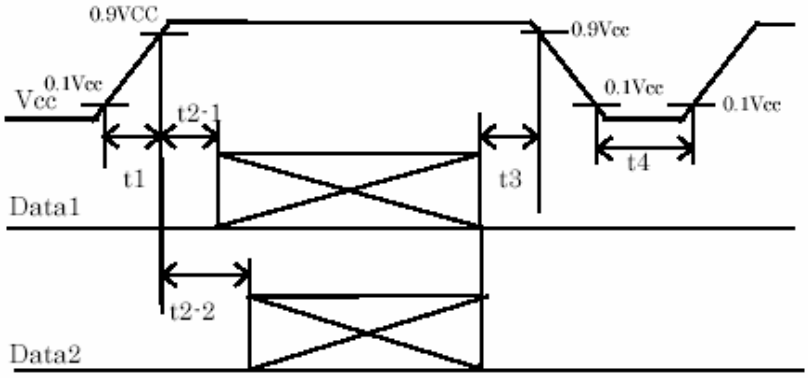
6-1TFT-LCD panel driving

Ta=25 C

Parameter			Symbol	Min.	Typ.	Max.	Unit	Remark
Vcc	Supply input voltage		Vcc	+4.5	+5.0	+5.5	V	【Note1】
	Supply input current		Icc		TBD	TBD	mA	【Note2】
	Power description		PD		TBD	TBD	W	
	Rush current		I_{rush}			TBD	mA	【Note9】
			T_{rush}			TBD	ms	
	Permissive Input Ripple Voltage		V_{RP}			100	mV	V_{CC}=+5.0V
Differential input Threshold voltage		High	V_{TH}			+100	mV	V_{CM}=+1.2V 【Note8】
		Low	V_{TL}	–100			mV	
LVDS select (High)			V_{IH}	2.6	3.3	3.6	V	【Note3】
LVDS select (Low)			V_{IL}			0.7	V	
Input leak current (High)			I_{IH1}			100	μA	V_I=3.3V 【Note6】
			I_{IH2}			400	μA	V_I=3.3V 【Note7】
Input leak current (Low)			I_{IL1}			100	μA	V_I=0V 【Note4】
			I_{IL2}	—	—	400	μA	V_I=0V 【Note5】
Terminal resistor			R_T	—	100	—	Ω	Differential input

* V_{CM} : Common mode voltage of LVDS driver.

【Note1】Input sequence condition for supply voltage



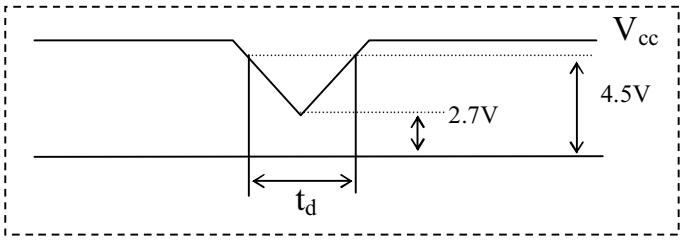
0＜t1≦10ms; 0＜t2-1≦20ms; 10ms≦t2-2; 0＜t3≦1s; 1s≦t4; 200ms≦t5

※ Data1: CLKIN±, RIN0±, RIN1±, RIN2±, RIN3±.

※ Data2: R/L, U/D, SELLVDS, Frame, O/S SET, Temp1, 2, 3

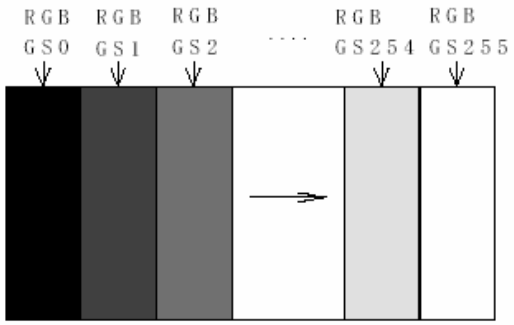
V_{cc}-dip conditions

1) **2.7V ≦ V_{cc} ＜4.5V**
   t_d ≦10 ms
2) **V_{cc}＜2.7V**



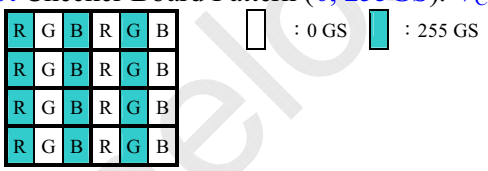
V_{cc}-dip conditions should also follow the On-off conditions for supply voltage

【Note2】 Consumption current typical was setup at the vertical gray 256 pattern as follwing one:

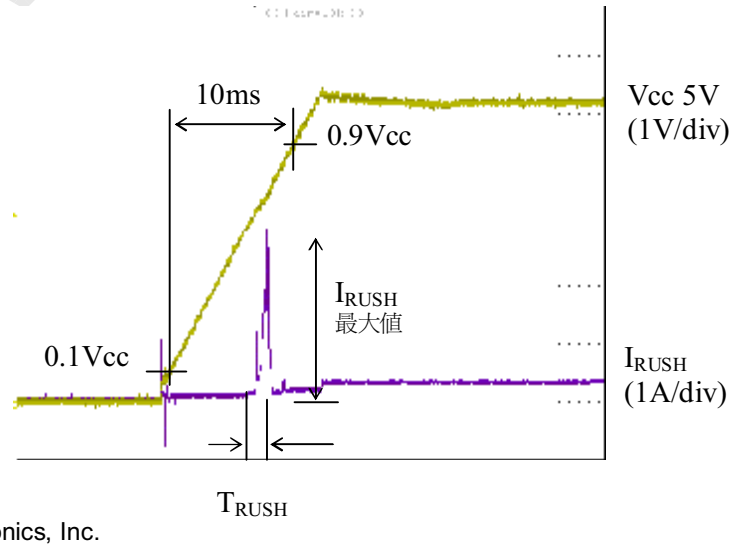


Vcc＝5.0V
CK＝82.0MHz
Th＝20.67μs

Max current condition: 1x1dot Checker Board Pattern (0, 255GS). V_{CC}=+5V



【Note3】R/L, U/D, SELLVDS, Frame, OS SET, Temp1, 2, 3, Test
【Note4】R/L, U/D, Frame, O/S SET, Temp1, 2, 3, Test
【Note5】SELLVDS
【Note6】R/L, U/D, Frame, O/S SET, Temp1, 2, 3, Test
【Note7】SELLVDS
【Note8】CLKIN±, RIN0±, RIN1±, RIN2±, RIN3±.
【Note9】Rush current

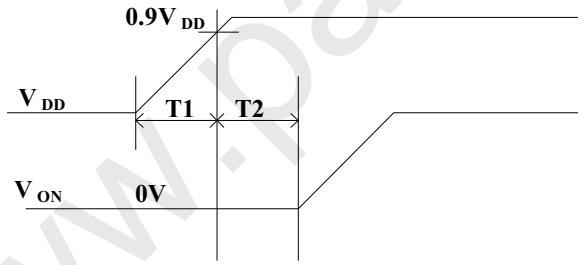


6-2. Backlight driving

The backlight system is a direct-lighting type with 16 CCFT (Cold Cathode Fluorescent Tube). The characteristics of the lamp are shown in the following table.

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
Power Supply Input Voltage	V_{DD}	22.5	24.0	25.5	V	【Note1】
Power Supply Input Current	I_{DD1}		3.6	4.0	A	Vin=24V, V_{BTT}=3.3V, V_{ON}=5V 【Note4】
	I_{DD2}		3.1	3.4		
Power Consumption	P_{DD1}	-	86.4	102	W	【Note5】
Ripple Voltage	Vrf	-	-	1000	mV	V_{DD}=24V
Diming Voltage	V_{BRT}	0	-	3.3	V	Input Impedance:100KΩ 【Note3】
BRTC(ON / OFF Voltage)	$V_{ON:H}$	3.0	5.0	6.0	V	High, input impedance: 8.2KΩ 【Note2】
	$V_{ON:L}$	0	-	1.0	V	
Lamp life time	L_L	60000			Hours	【Note6】

【Note1】Inverter power ON sequence:



100 μs < T1 ≦ 300ms

1 μs ≦ T2

【Note2】 V_{ON}

【Note3】 V_{BRT}

【Note4】 I_{DD1}: the value before 60 minutes after power supply is turned on.
I_{DD2}: the value after 60 minutes after power supply is turned on.

【Note5】Calculated Value for reference ($I_{DD} \times V_{DD}$)

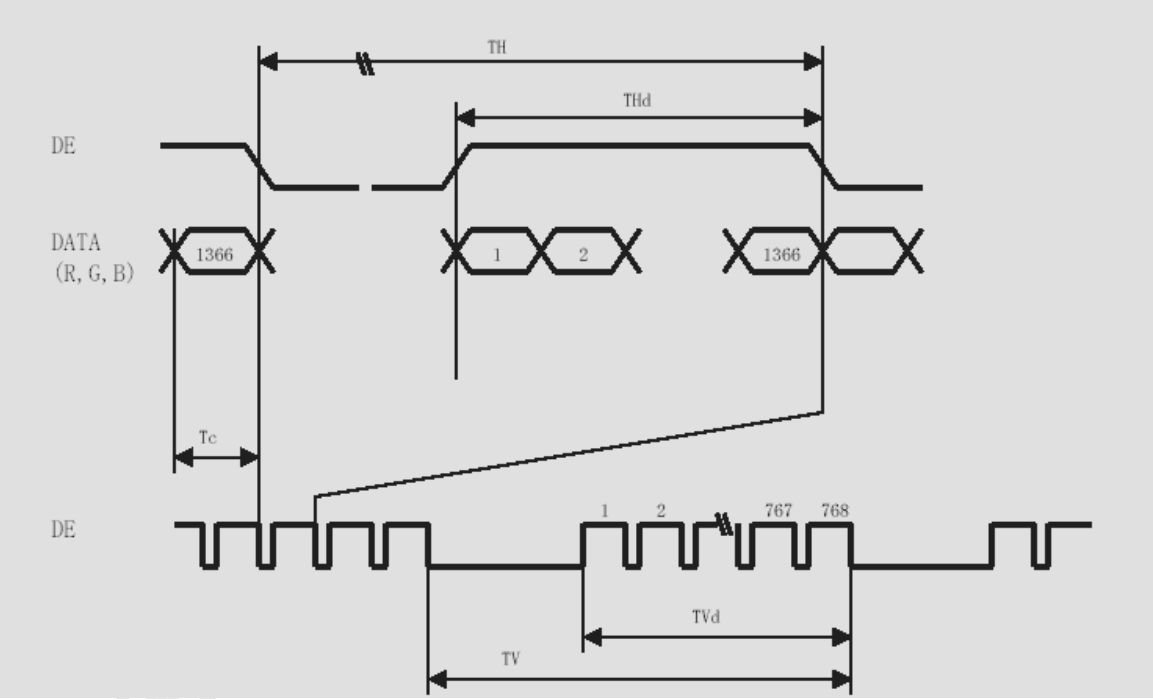
【Note6】Lamp life time is defined as the time when brightness becomes 50% of the original value in the continuous operation under the condition of Ta=25±2℃ and brightness control.

7. Timing characteristics of LCD module input signals

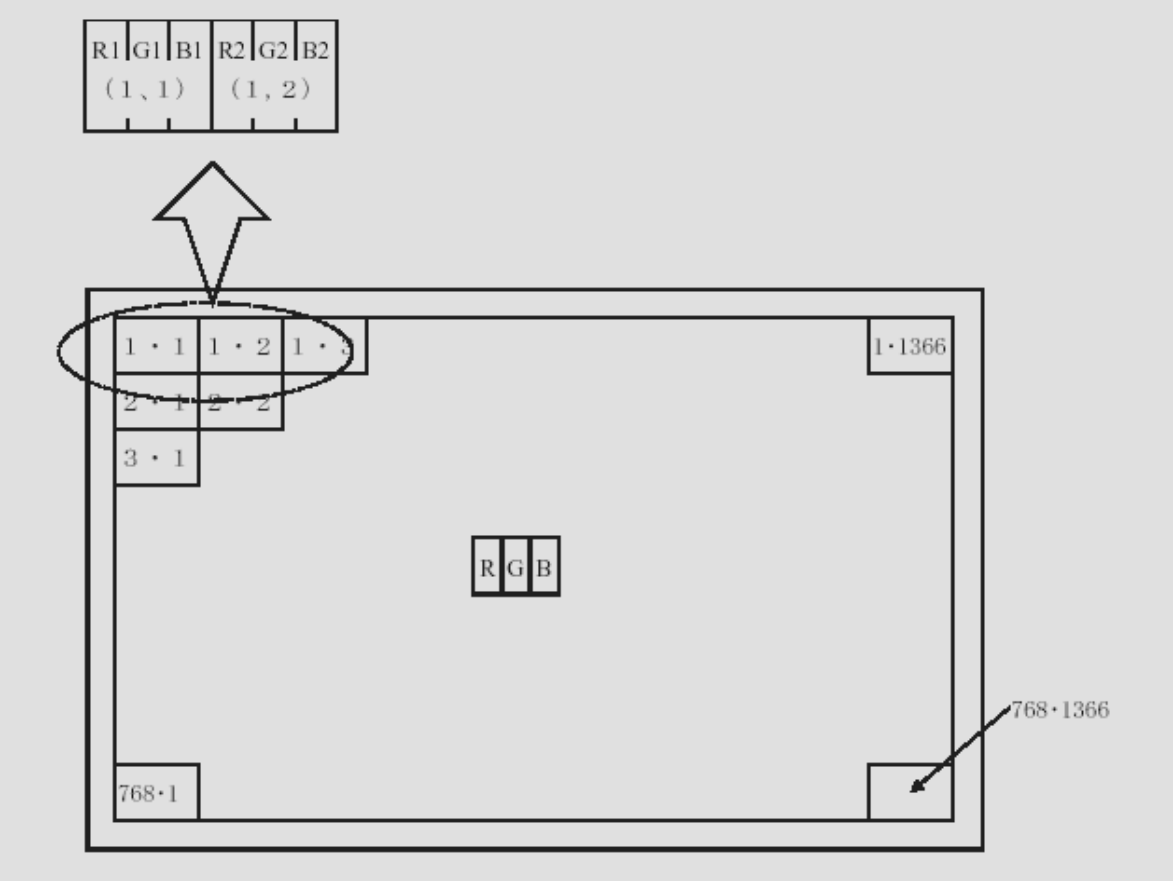
7-1. Timing characteristics

ITIME	Symbol		Min	Typ	Max	Unit
DCLK	Frequency	1/Tc	65	82	85	MHz
Enable signal	H-Period	TH	1560	1696	1940	CLOCK
			18.3	20.68		μs
	H-active (high)	THd	1366	1366	1366	CLOCK
	V-Period	TV	778	806	972	LINE
	V-active (high)	TVd	768	768	768	LINE

7-2 Signal Timing Waveform



7-3. Input Data Signals and Display Position on the screen



8. Input Signals, Basic Display Colors and Gray Scale of Each Color

	Colors & Gray scale	Data signal																							
		Gray Scale	R0	R1	R2	R3	R4	R5	R6	R7	G0	G1	G2	G3	G4	G5	G6	G7	B0	B1	B2	B3	B4	B5	B6	B7
Basic Color	Black	—	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Blue	—	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	Green	—	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
	Cyan	—	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Red	—	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Magenta	—	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
	Yellow	—	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	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	1	1	1	1	1	1
Gray Scale of Red	Black	GS0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	⇧	GS1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Darker	GS2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	⇧	↓					↓								↓								↓			
	⇩	↓					↓								↓								↓			
	Brighter	GS253	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	⇩	GS254	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red	GS255	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gray Scale of Green	Black	GS0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	⇧	GS1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Darker	GS2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	⇧	↓																								
	⇩	↓																								
	Brighter	GS253	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0
	⇩	GS254	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
	Green	GS255	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
Gray Scale of Blue	Black	GS0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	⇧	GS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	Darker	GS2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	⇧	↓																								
	⇩	↓																								
	Brighter	GS253	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
	⇩	GS254	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
	Blue	GS255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

0: Low level voltage, 1: High level voltage

Each basic color can be displayed in 256 gray scales from 8 bit data signals. According to the combination of total 24 bit data signals, the 16,777,216-color display can be achieved on the screen.

9. Optical Characteristics

Ta=25℃, V_{cc}=+5V

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit	Remark
Viewing angle range	L/R	θ 21, θ 22	CR≥10	70	88		Deg.	【Note1,4】
	U	θ 11		70	88		Deg.	
	D	θ 12		70	88		Deg.	
Contrast ratio		CRn	θ =0°	900	1200	—		【Note2,4】 V_{BRT}=3.3V
Rise time	τ r				6		ms	【Note3】
Fall time	τ d				6		ms	
Chromaticity of White (CIE 1931)	Wx			0.251	0.281	0.311		【Note4】 V_{BRT}=3.3V
	Wy			0.259	0.289	0.319		
Chromaticity of Red (CIE 1931)	Rx			0.610	0.640	0.670		
	Ry			0.306	0.336	0.366		
Chromaticity of Green (CIE 1931)	Gx			0.251	0.281	0.311		
	Gy			0.571	0.601	0.631		
Chromaticity of Blue (CIE 1931)	Bx			0.115	0.145	0.175		
	By			0.043	0.073	0.103		
Luminance of white		Y_L		460	500		Cd/m^2	【Note4】 V_{BRT}=3.3V
White Uniformity		δ w (5P)		—	-	1.25		【Note5】
Color Temperatore		CT			10000		˚K	

Optical measurement condition:

1. **The optical characteristics shall be measured in a dark room or equivalent state with the method shown in Fig.1.**
2. **The measurement shall be executed 60 minutes after lighting at rating.**

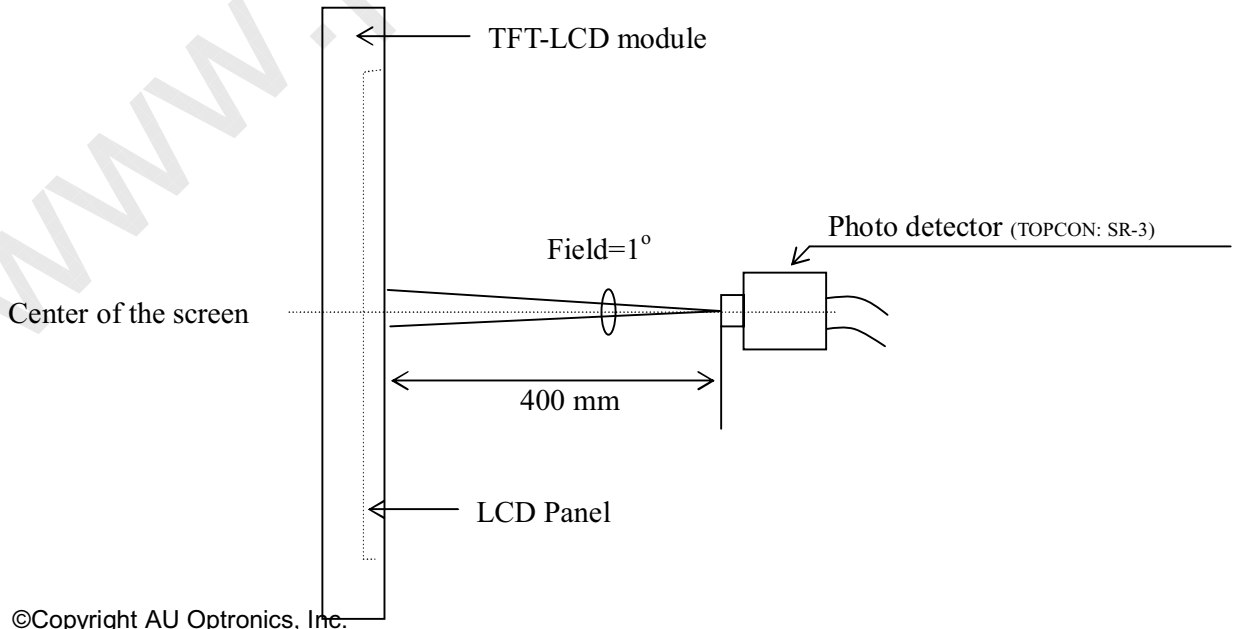
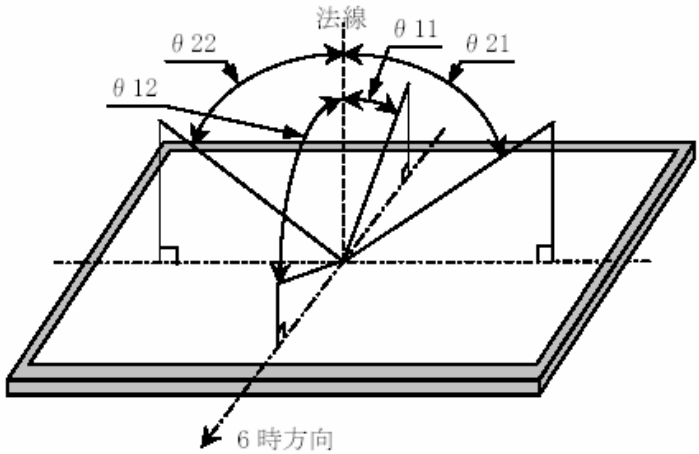


Fig 1. Optical characteristics measurement method

【Note1】 Definitions of viewing angle range:



【Note2】 Definition of contrast ratio:

The contrast ratio is defined as the following.

$$\text{Contrast Ratio (CR)} = \frac{\text{Luminance (brightness) with all pixels white}}{\text{Luminance (brightness) with all pixels black}}$$

【Note3】 Definition of response time:

The response time (τ r and τ d) is defined as the following figure and shall be measured by switching the input signal for "any level of gray (0%, 25%, 50%, 75% and 100%)" and "any level of gray (0%, 25%, 50%, 75% and 100%)".

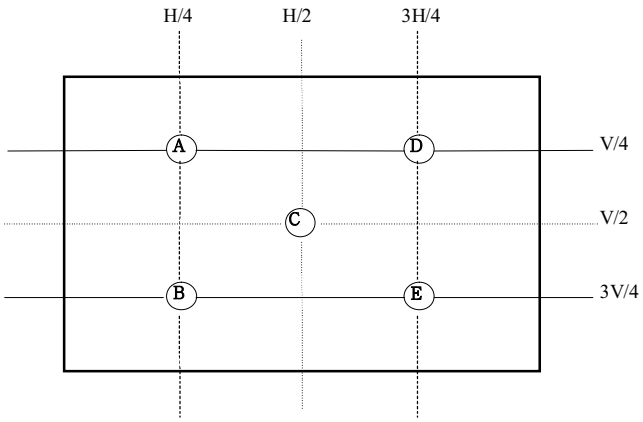
輝度比	0%	25%	50%	75%	100%
0%		tr: 0%-25%	tr: 0%-50%	tr: 0%-75%	tr: 0%-100%
25%	td: 25%-0%		tr: 25%-50%	tr: 25%-75%	tr: 25%-100%
50%	td: 50%-0%	td: 50%-25%		tr: 50%-75%	tr: 50%-100%
75%	td: 75%-0%	td: 75%-25%	td: 75%-50%		tr: 75%-100%
100%	td: 100%-0%	td: 100%-25%	td: 100%-50%	td: 0%-75%	

t*: x-y…shift time from a luminance ratio(x) to another one(y)

τ r=Σ(tr:x-y)/10, τ d=Σ(td:x-y)/10

【Note4】 This shall be measured at center of the screen.

【Note5】Definition of white uniformity:
White uniformity is defined as the following the number of measurement points within active area, formula are δw(5)(A～E). HxV : active area



$$\delta_W = \frac{\text{Maximum Luminance (of 5 points measurement)}}{\text{Minimum Luminance (of 5 points measurement)}}$$

【Note6】This shall be measured at center of the screen.
Share of module quantity of luminance over 460cd/m^2; ≧ 90%

10. Display Quality
The display quality of the color TFT-LCD module shall be in compliance with the Incoming Inspection Standard.

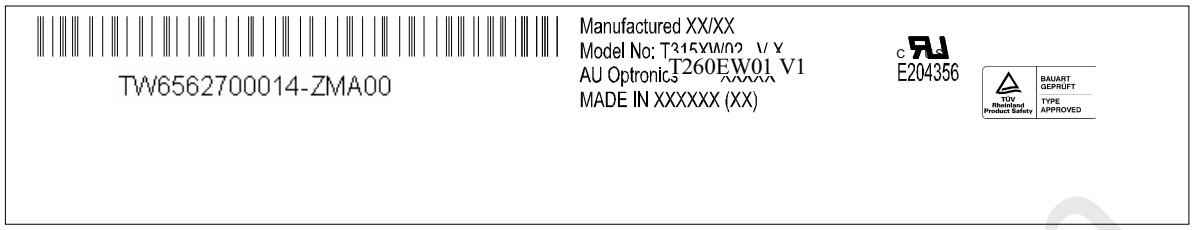
11・Handling Precautions
a) Be sure to turn off the power supply when inserting or disconnecting the cable.
b) Be sure to design the cabinet so that the module can be installed without any extra stress such as warp or twist.
c) Since the front polarizer is easily damaged, pay attention not to scratch it.
d) Wipe off water drop immediately. Long contact with water may cause discolora -tion or spots.
e) When the panel surface is soiled, wipe it with absorbent cotton or other soft cloth.
f) Since the panel is made of glass, it may break or crack if dropped or bumped on hard surface. Handle with care.
g) Since CMOS LSI is used in this module, take care of static electricity and injure the human earth when handling.
h) Observe all other precautionary requirements in handling components.
i) This module has its circuitry PCBs on the rear side and should be handled carefully in order not to be stressed.
j) Laminated film is attached to the module surface to prevent it from being scratched. Peel the film off slowly just before the use with strict attention to electrostatic charges. Ionized air shall be blown over during the action. Blow off the 'dust' on the polarizer by using an ionized nitrogen gun, etc…

12.Reliability test items

No.	Test item	Conditions
1	High temperature storage test	Ta = 60℃, 1000h
2	Low temperature storage test	Ta = -25℃, 1000h
3	High temperature & High humidity operation test	Ta = 40℃, 95 %RH, 1000h
4	High temperature operation test	Ta = 50℃, 1000h
5	Low temperature operation test	Ta = 0℃, 1000h
6	Vibration test (non-operating)	Frequency: 10～500Hz, 1.0G, Test period: 3hours (1h for each direction of X, Y, Z)
7	Shock test (Non- operating)	Gravity: 50G Pulse width: 11ms, half sine wave Direction : ±X,±Y,±Z Once for each direction.
8	ESD	Contact-op: ±20kv, Contact-nop: ±20kv, Air-op: ±20kv, Air-nop: ±20kv, (Contact area is limited on metal bezel) C: 150PF R: 330Ω
9	Thermal cycle	Ta = -25, 1h ~ 60℃, 1h, 200 cycles
10	High temperature operation test 2 (shimi test)	Ta =60℃, 200h

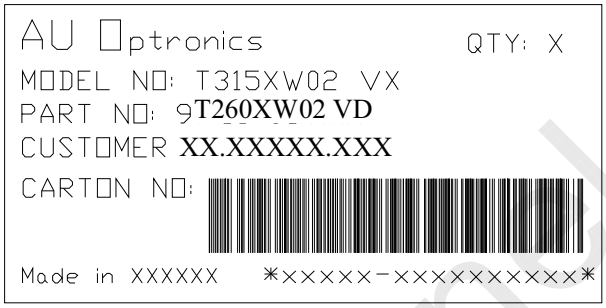
13 · Others

1) LCD Module Label:



TW6562700014
TW65627: Production Lot
00014: Panel Serial Number
ZMA: AUO internal code
Manufactured 06/21: 2006 week 21
Made In Taiwan: Taiwan made

Carton Label :



3) Pallet

By air transportation, there are 2-layer of cartons stacking on one pallet;

By ocean transportation, there are 3-layer of cartons stacking on one pallet.

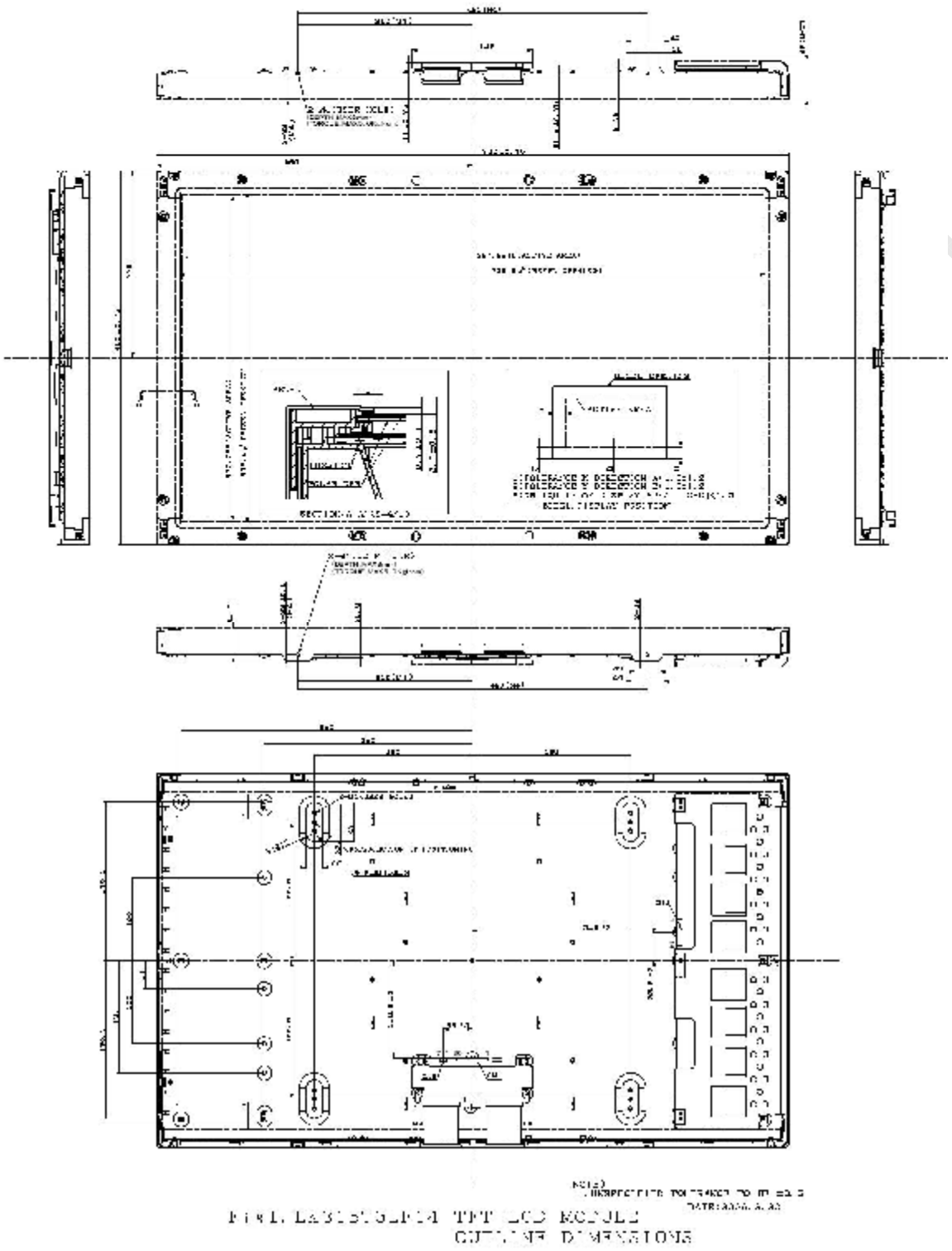
For both air- and ocean- transportation, each layer has 6 cartons.

4) Maximum layer of carton 3-layer.

Notes:

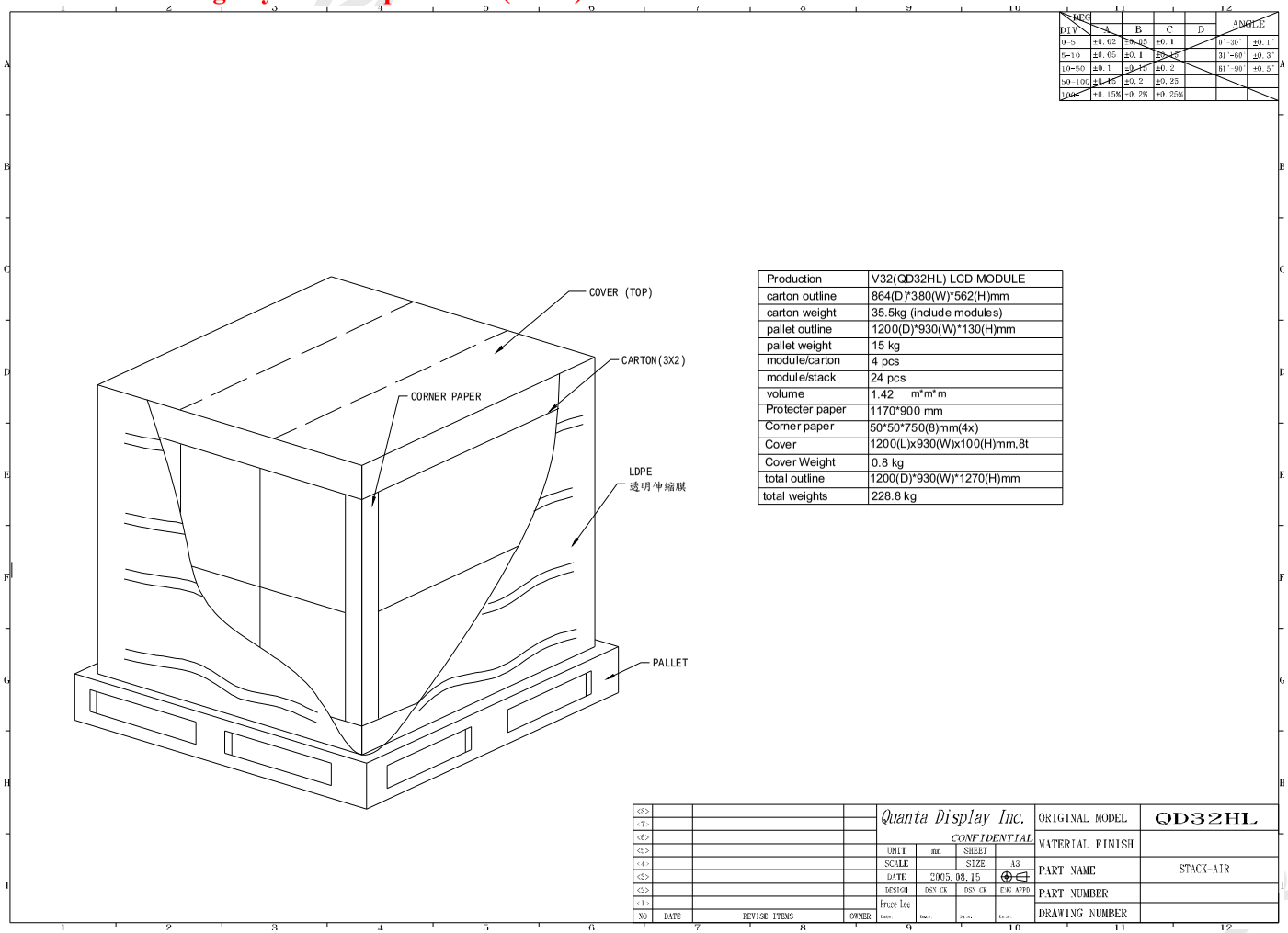
1) Adjusting volume has been set optimally before shipment, so do not change any adjusted value. If adjusted value is changed,the specification may not be satisfied.
2) Disassembling the module can cause permanent damage and should be strictly avoided.
3) Please be careful since image retention may occur when a fixed pattern is displayed for a long time.
4) If any problem occurs in relation to the description of this specification, it shall be resolved through discussion with spirit of cooperation.

14. Drawing



15. Packing

15-1 Packing: By air transportation (1 of 2)

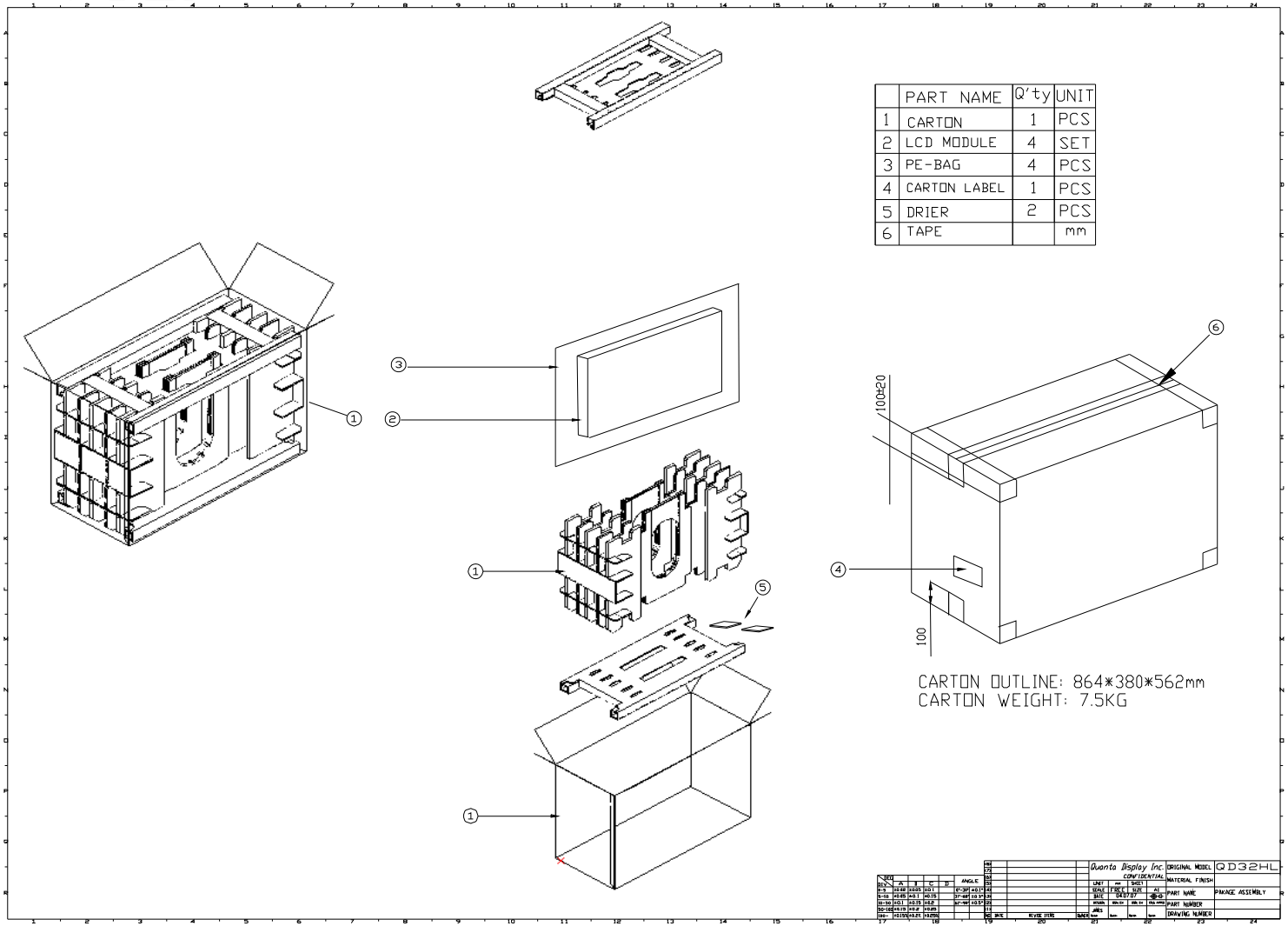


Production	V32(QD32HL) LCD MODULE
carton outline	864(D)*380(W)*562(H)mm
carton weight	35.5kg (include modules)
pallet outline	1200(D)*930(W)*130(H)mm
pallet weight	15 kg
module/carton	4 pcs
module/stack	24 pcs
volume	1.42 m*m*m
Protecter paper	1170*900 mm
Corner paper	50*50*750(8)mm(4x)
Cover	1200(L)x930(W)x100(H)mm,8t
Cover Weight	0.8 kg
total outline	1200(D)*930(W)*1270(H)mm
total weights	228.8 kg

DIV	A	B	C	D	ANGLE	
0~5	±0.02	±0.05	±0.1		0°~30°	±0.1°
5~10	±0.05	±0.1	±0.15		31°~60°	±0.3°
10~50	±0.1	±0.15	±0.2		61°~90°	±0.5°
50~100	±0.15	±0.2	±0.25			
100~	±0.15%	±0.2%	±0.25%			

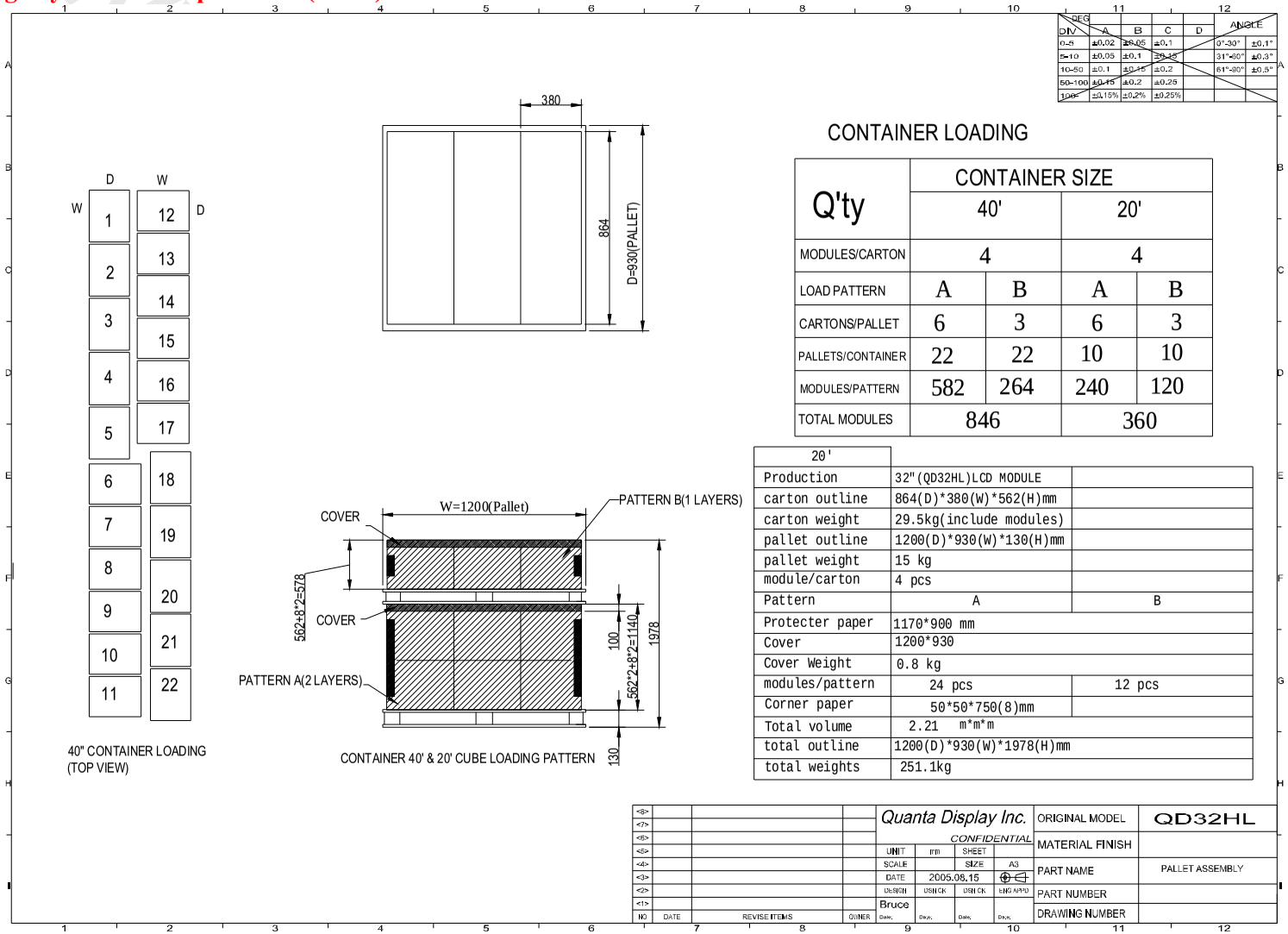
Quanta Display Inc.	CONFIDENTIAL
ORIGINAL MODEL	QD32HL
MATERIAL FINISH	
PART NAME	STACK-AIR
PART NUMBER	
DRAWING NUMBER	
UNIT: mm	SHEET SIZE: A3
SCALE	
DATE: 2005.08.15	
DESIGN: Bruce Lee	DSN CK / DSN CK / ENG APPD

Packing: By air transportation (2 of 2)



	PART NAME	Q'ty	UNIT
1	CARTON	1	PCS
2	LCD MODULE	4	SET
3	PE-BAG	4	PCS
4	CARTON LABEL	1	PCS
5	DRIER	2	PCS
6	TAPE		mm

15-2 Packing: By ocean transportation (1 of 2)



DIV	A	B	C	D	ANGLE	
0-5	±0.02	±0.05	±0.1		0°-30°	±0.1°
5-10	±0.05	±0.1	±0.15		31°-60°	±0.3°
10-50	±0.1	±0.15	±0.2		61°-90°	±0.5°
50-100	±0.15	±0.2	±0.25			
100	±0.15%	±0.2%	±0.25%			

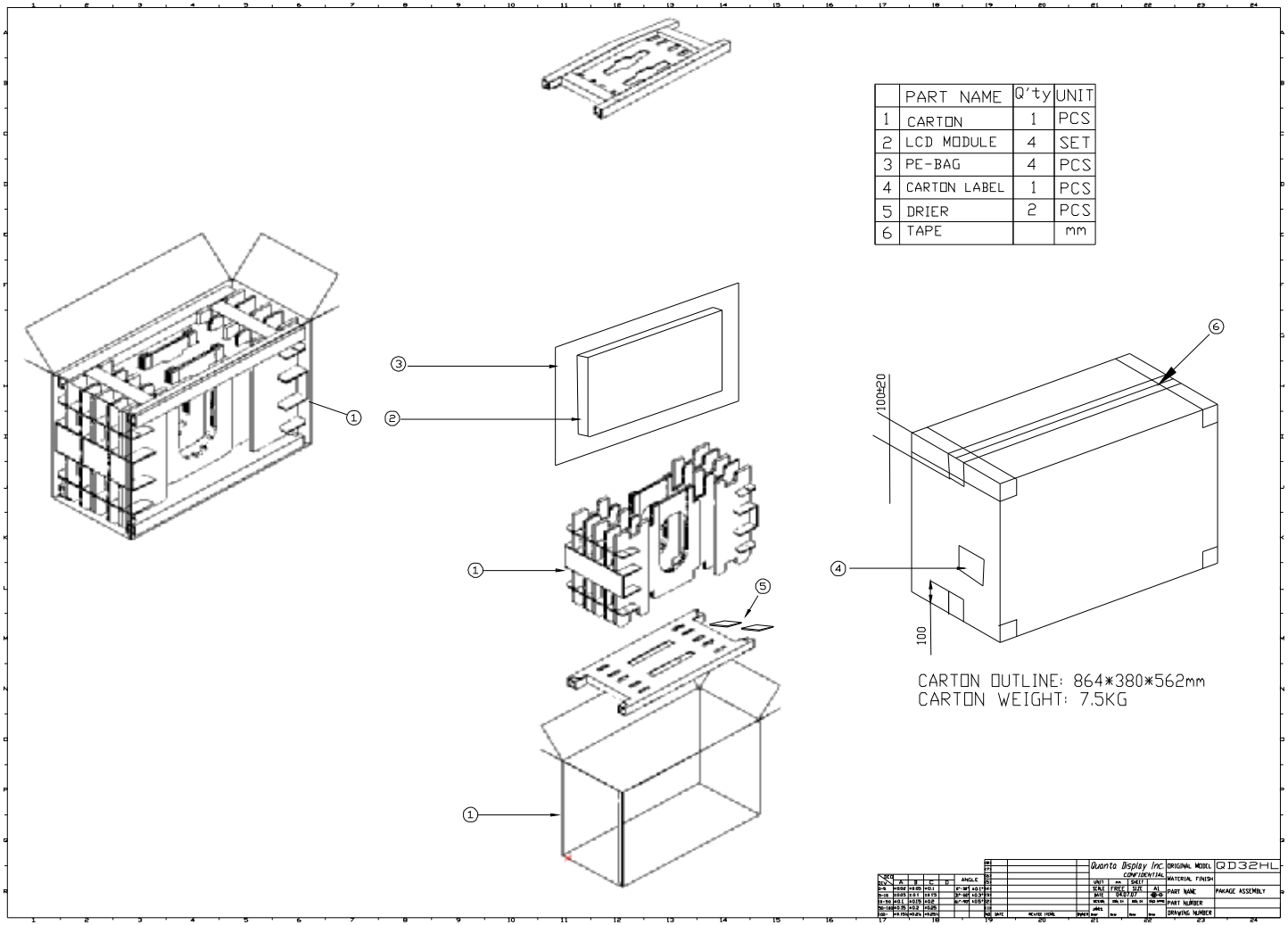
CONTAINER LOADING

Q'ty	CONTAINER SIZE			
	40'		20'	
MODULES/CARTON	4		4	
LOAD PATTERN	A	B	A	B
CARTONS/PALLET	6	3	6	3
PALLETS/CONTAINER	22	22	10	10
MODULES/PATTERN	582	264	240	120
TOTAL MODULES	846		360	

20'		
Production	32"(QD32HL)LCD MODULE	
carton outline	864(D)*380(W)*562(H)mm	
carton weight	29.5kg(include modules)	
pallet outline	1200(D)*930(W)*130(H)mm	
pallet weight	15 kg	
module/carton	4 pcs	
Pattern	A	B
Protecter paper	1170*900 mm	
Cover	1200*930	
Cover Weight	0.8 kg	
modules/pattern	24 pcs	12 pcs
Corner paper	50*50*750(8)mm	
Total volume	2.21 m*m*m	
total outline	1200(D)*930(W)*1978(H)mm	
total weights	251.1kg	

<8>				Quanta Display Inc.		ORIGINAL MODEL	QD32HL
<7>				CONFIDENTIAL			
<6>				UNIT mm	SHEET	MATERIAL FINISH	
<5>				SCALE	SIZE A3		
<4>				DATE 2005.08.15		PART NAME	PALLET ASSEMBLY
<3>				DESIGN	DSN CK DSN CK ENG APPD		
<2>				Bruce		PART NUMBER	
<1>				Date:	Date: Date: Date:	DRAWING NUMBER	
NO	DATE	REVISE ITEMS	OWNER				

Packing: By ocean transportation (2 of 2)



16. Reliability test criteria

No.	Test item	Conditions	Judge Criteria
1	High temperature storage test	Ta = 60℃, 1000h	There is no faital defect for the performance of the LCD module inspected by the inspection method specified in Doc.NO. QD26HL03-01-IIS
2	Low temperature storage test	Ta = -25℃, 1000h	There is no faital defect for the performance of the LCD module inspected by the inspection method specified in Doc.NO. QD26HL03-01-IIS
3	High temperature & High humidity operation test	Ta = 40℃, 95 %RH, 1000h	There is no faital defect for the performance of the LCD module inspected by the inspection method specified in Doc.NO. QD26HL03-01-IIS
4	High temperature operation test	Ta = 50℃, 1000h	There is no faital defect for the performance of the LCD module inspected by the inspection method specified in Doc.NO. QD26HL03-01-IIS
5	Low temperature operation test	Ta = 0℃, 1000h	There is no faital defect for the performance of the LCD module inspected by the inspection method specified in Doc.NO. QD26HL03-01-IIS
6	Vibration test (non-operating)	Frequency: 10～500Hz, 1.0G, Test period: 3hours (1h for each direction of X, Y, Z)	There is no faital defect for the performance of the LCD module inspected by the inspection method specified in Doc.NO. QD26HL03-01-IIS Active area must be inside of the bezel opening.
7	Shock test (Non- operating)	Gravity: 50G Pulse width: 11ms, half sine wave Direction : ±X,±Y,±Z Once for each direction.	There is no faital defect for the performance of the LCD module inspected by the inspection method specified in Doc.NO. QD26HL03-01-IIS Active area must be inside of the bezel opening.
8	ESD	Contact-op: ±20kv, Contact-nop: ±20kv, Air-op: ±20kv, Air-nop: ±20kv, (Contact area is limited on metal bezel) C: 150PF, R: 330Ω	There is no faital defect for the performance of the LCD module inspected by the inspection method specified in Doc.NO. QD26HL03-01-IIS

9	Thermal cycle	Ta = -25, 1h ~ 60℃, 1h, 200 cycles	There is no faital defect for the performance of the LCD module inspected by the inspection method specified in Doc.NO. QD26HL03-01-IIS
10	High temperature operation test 2	Ta =60℃, 200h 【Note1】 To check linear simi that occur boundary between white and black pattern.	Cannot see any simi through the 10% ND filter at any gray scale at 60 degC.

【Note1】 Image sticking pattern shown as following: