POWERTIP TECH. CORP.

SPECIFICATIONS

CUSTOMER	:	CCN343
SAMPLE CODE	:	SE128128WRF-013-HQ
MASS PRODUCTION CODE	:	PE128128WRF-013-HQ
SAMPLE VERSION	:	01
SPECIFICATIONS EDITION	:	004
DRAWING NO. (Ver.)	:	LMD-PE128128WRF-013-HQ (Ver:003)
PACKAGING NO. (Ver.)	:	PKG-PE128128WRF-013-HQ (Ver:001)

Customer Approved

Date:

Approved	Checked	Designer
廖志豪 **Rex Liao**	張慶源 **Yuan Chang**	謝章源 **James Hsieh**

POWERTIP
2009.06.05
TW RD APR

☐ Preliminary specification for design input

■ Specification for sample approval

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RECORDS OF REVISION

Date (mm / dd / yyyy)	Ver.	Edi.	Description	Page	Design by
03/31/2009	01	001	NEW DRAWING	-	JAMES
04/07/2009	01	002	Modify dim LCD V.A	**Appendix And 4**	JAMES
05/13/2009	01	003	First Sample	-	JAMES
06/03/2009	01	004	Modify CIE Color Coordinate	8	JAMES

Total：23 Page

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Appendix 1：LCM Drawing

Appendix 2：Package

Note：For detailed information please refer to IC data sheet : ST7571

1. SPECIFICATIONS

1.1 Features

Item	Standard Value
Display Type	128 * 128 Dots
LCD Type	FSTN, Positive, White, Transflective
Driver Condition	LCD Module : 1/128 Duty , 1/12 Bias
Viewing Direction	6 O'clock
Backlight	White LED
Weight	5g
Interface	3 / 4-line Serial interface
Other(controller / driver IC)	ST7571 (4 Gray Scale)
ROHS	THIS PRODUCT CONFORMS THE ROHS OF PTC Detail information please refer web side : http://www.powertip.com.tw/news/LatestNews.asp

1.2 Mechanical Specifications

Item	Standard Value	Unit
Outline Dimension	32.36 (W) * 38.0 (L) * 2.7 (H)(MAX)	mm
Viewing Area	26.8 (W) * 26.8 (L)	mm
Active Area	25.331 (W) * 25.331 (L)	mm
Character Size	0.185 (W) * 0.185 (L)	mm
Character Pitch	0.198 (W) * 0.198 (L)	mm

Note：For detailed information please refer to LCM drawing

1.3 Absolute Maximum Ratings

Item	Symbol	Condition	Min.	Max.	Unit
Power Supply Voltage	V_{DD}	—	-0.3	+3.3	V
LCD Driver Supply Voltage	V_{LCD}	V0-XV0	-0.3	+15.0	V
Operating Temperature	T_{OP}	—	-20	+70	℃
Storage Temperature	T_{ST}	—	-30	+80	℃
Storage Humidity	H_D	Ta＜40 ℃	20	90	%RH

1.4 DC Electrical Characteristics

VSS = 0V, Ta = 25°C

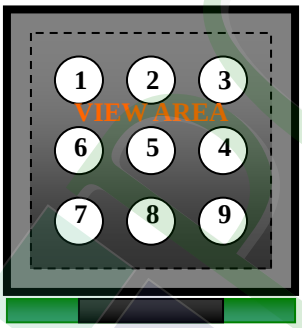
Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Logic Supply Voltage	V_{DD}	-	2.4	2.8	3.3	V
"H" Input Voltage	V_{IH1}	-	0.7*VDD	-	VDD	V
"L" Input Voltage	V_{IL1}	-	VSS	-	0.3*VDD	V
"H" Output Voltage	V_{OH1}	IOH = -0.1mA	0.7*VDD	-	VDD	V
"L" Output Voltage	V_{OL1}	IOL = 0.1mA	VSS	-	0.3*VDD	V
Supply current	I_{DD}	V_{DD} =2.8V ,Vop =11.8 V	-	0.6	1.5	mA
LCM Driver Voltage	V_{OP}	V0-VSS (-20°C)	13.2	13.3	13.4	V
		V0-VSS (+25°C)	11.6	11.8	12.0	
		V0-VSS (+70°C)	10.6	10.8	11.0	

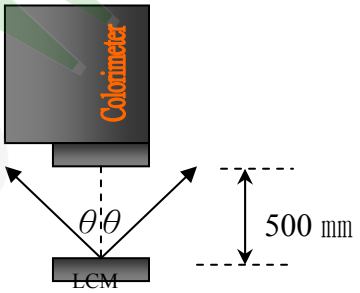
1.5 Optical Characteristics

FSTN LCD panel VDD = 2.8V, Ta=25°C

Item		Symbol	Condition	Min.	Typ.	Max.	unit	
Response time	Rise	Tr	Ta = 25°C θX, θY = 0°	-	120	180	ms	Note2
	Fall	Tf		-	260	390		
Viewing angle	Top	θY+	CR ≥ 10	-	40	-	Deg.	Note4
	Bottom	θY-		-	40	-		
	Left	θX-		-	40	-		
	Right	θX+		-	40	-		
Contrast ratio		CR	Ta = 25°C θX , θY = 0°	-	4.8	-		Note3
Average Brightness Pattern=white display (With LCD)		IV	IF= 20 mA	150	180	-	cd/m^2	Note1
Uniformity (With B/L)		△B	IF= 20 mA	70	-	-	%	Note1

Note1:
1：△B=B(min) / B(max)*100%
2：Measurement Condition for Optical Characteristics:
a：Environment: 25℃±5℃ / 60±20%R.H，no wind，dark room below 10 Lux at typical lamp current and typical operating frequency.
b：Measurement Distance: 500 ± 50 ㎜ ，(θ= 0°)
c：Equipment: TOPCON BM-7 fast，(field 1°)，after 10 minutes operation.
d：The uncertainty of the C.I.E coordinate measurement ±0.01，Average Brightness ± 4%



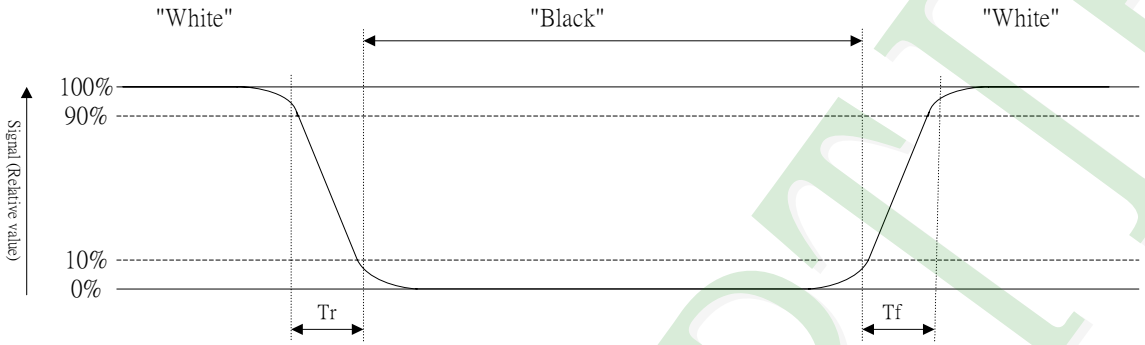


Colorimeter=BM-7 fast

Note2: Definition of response time:

The output signals of photo detector are measured when the input signals are changed from “black” to “white”(falling time) and from “white” to “black”(rising time), respectively. The response time is defined as the time interval between the 10% and 90% of Amplitudes.

Refer to figure as below:



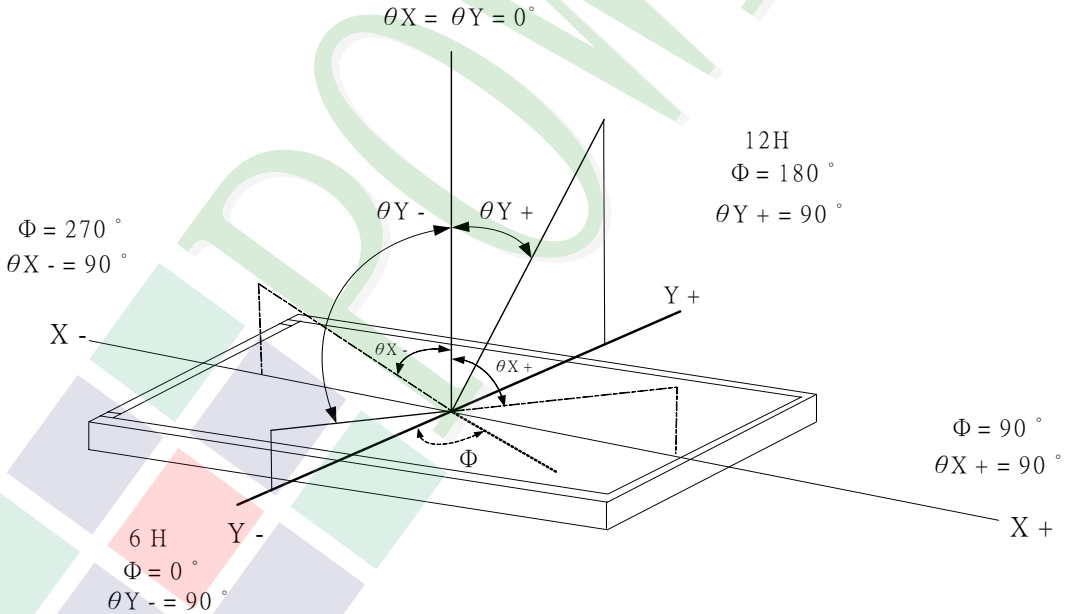
Note3: Definition of contrast ratio:

Contrast ratio is calculated with the following formula

$$\text{Contrast ratio (CR)} = \frac{\text{Photo detector output when LCD is at “White” state}}{\text{Photo detector output when LCD is at “Black” state}}$$

Note4: Definition of viewing angle:

Refer to figure as below:



1.6 Backlight & LED Characteristics

LCD Module with LED Backlight

Maximum Ratings

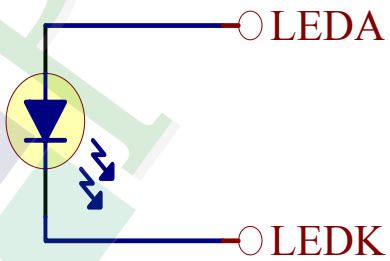
Item	Symbol	Conditions	Min.	Max.	Unit
Forward Current	IF	Ta =25℃	-	30	mA
Power Dissipation	PO	Ta =25℃	-	120	mW

Electrical / Optical Characteristics

Ta =25℃

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF = 20 mA	3.0	-	3.3	V
Reverse Current	IR	VR = 5 V	-	-	50	μA
Average Brightness (without LCD) *1	IV	IF= 20 mA	800	900	-	cd/m^2
CIE Color Coordinate (without LCD)	X	IF= 20 mA	-	0.29	-	-
	Y		-	0.29	-	
Color	White					

*1 This value will be changed while mass production.



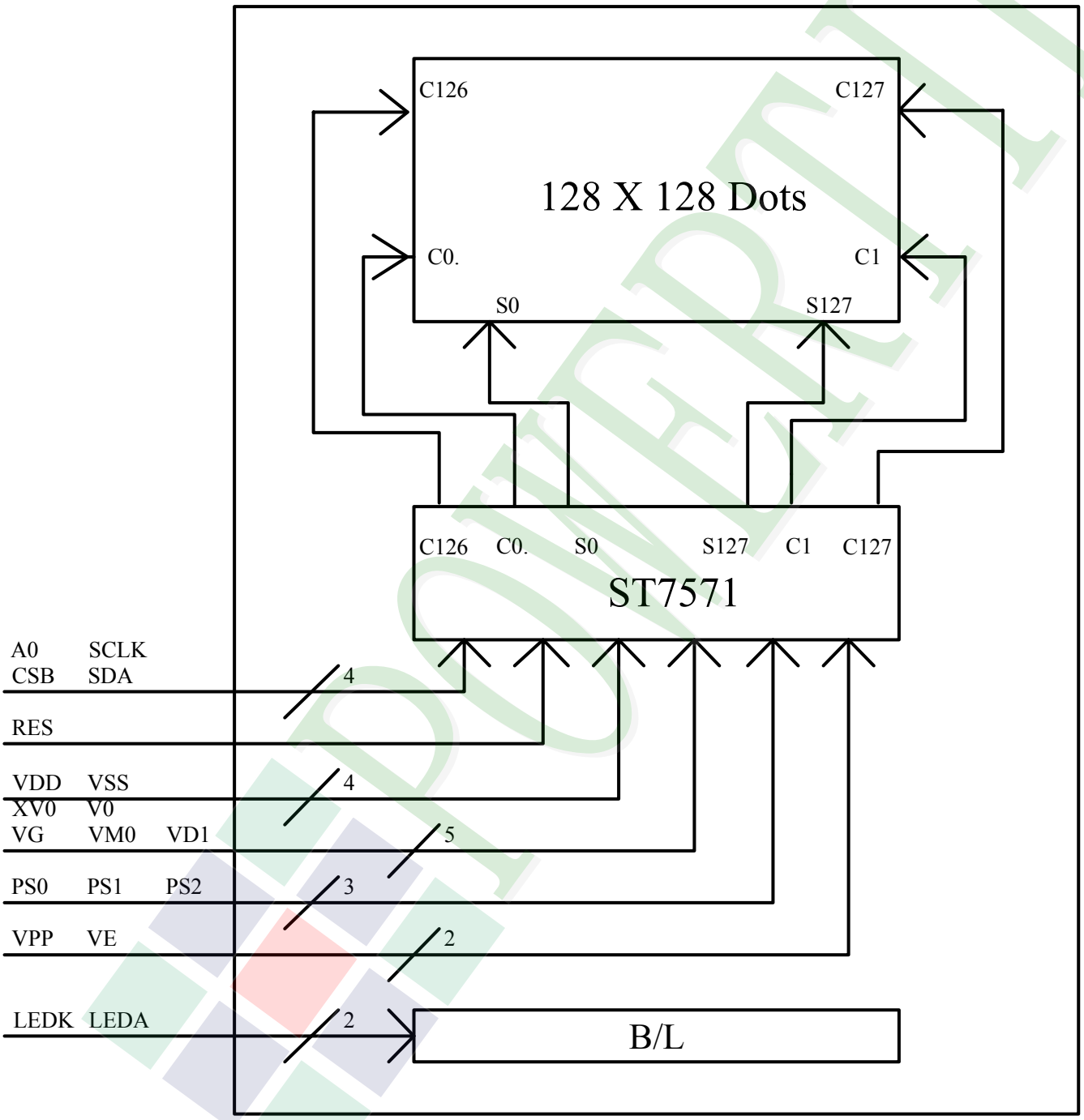
2. MODULE STRUCTURE

2.1 Counter Drawing

2.1.1 LCM Mechanical Diagram

* See Appendix

2.1.2 Block Diagram



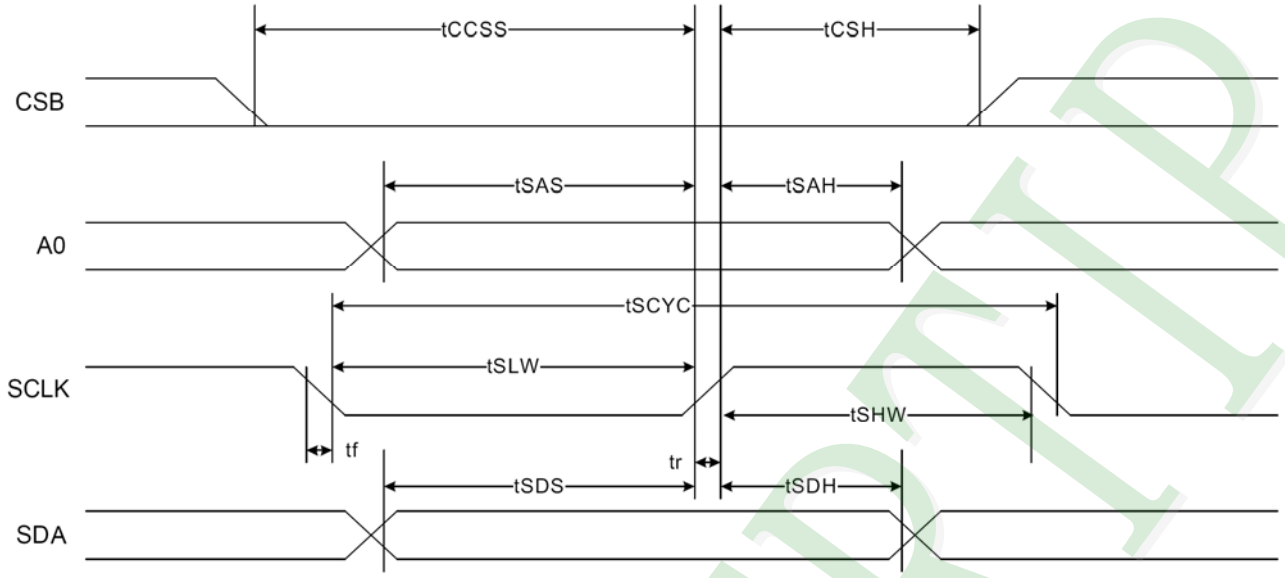
2.2 Interface Pin Description

Pin No	Symbol	Function
1	NC	Dummy
2	LEDA	Backlight LED Anode input pin.
3	LEDK	Backlight LED cathode input pin
4	NC	Dummy
5	VE	When writing OTP, VE should be pull low. If not used, please let it open
6	VPP	When writing OTP, it needs external power supply voltage If not used, please let it open
7	VG	Connect a capacitor to VSS
8	VD1	Connect a capacitor to VSS
9	XV0	Connect a capacitor to V0
10	V0	Connect a capacitor to XV0
11	VM0	Connect a capacitor to VSS
12	VDD	Power supply for system.
13	VSS	System ground
14	VDD	Power supply for system.
15	SDA	serial input data
16	SCLK	serial clock input
17	VDD	Power supply for system.
18	A0	Register select input pin
19	RST	Reset input pin
20	CSB	Chip select input pins
21	PS2	
22	PS1	
23	PS0	
24	NC	Dummy

PS0	PS1	PS2	Interface mode	D/C	Data	R/W	Serial clock
L	L	L	3 Line Serial	-	SDA	Write only	SCLK
L	H	L	4 Line Serial	A0	SDA	-	SCLK

2.3 Timing Characteristic

SERIAL INTERFACE(4-Line Interface)

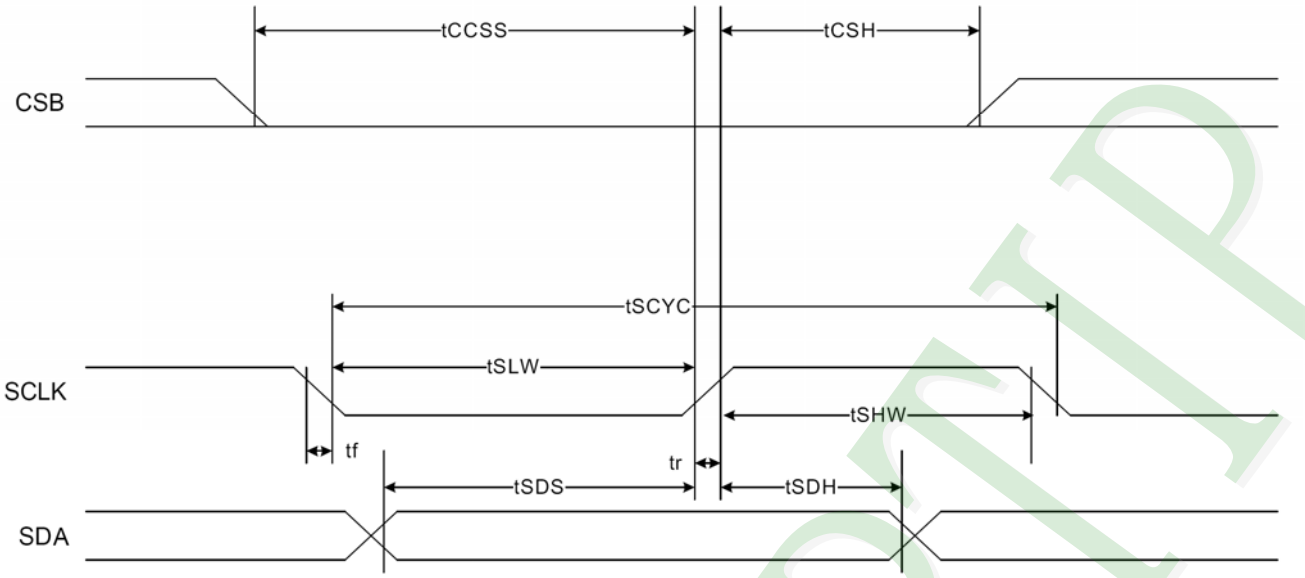


VDD=2.8V. Ta = -20°C～70°C

Item	Signal	Symbol	Condition	Rating		Units
				Min.	Max.	
Serial Clock Period	SCL	tSCYC		200	—	ns
SCL "H" pulse width		tSHW		80	—	
SCL "L" pulse width		tSLW		80	—	
Address setup time	A0	tSAS		60	—	
Address hold time		tSAH		30	—	
Data setup time	SID	tSDS		60	—	
Data hold time		tSDH		30	—	
CS-SCL time	CSB	tCSS		40	—	
CS-SCL time		tCSH		100	—	

- The input signal rise and fall time (tr, tf) are specified at 15 ns or less.
- All timing is specified using 20% and 80% of VDD1 as the standard.

SERIAL INTERFACE(3-Line Interface)



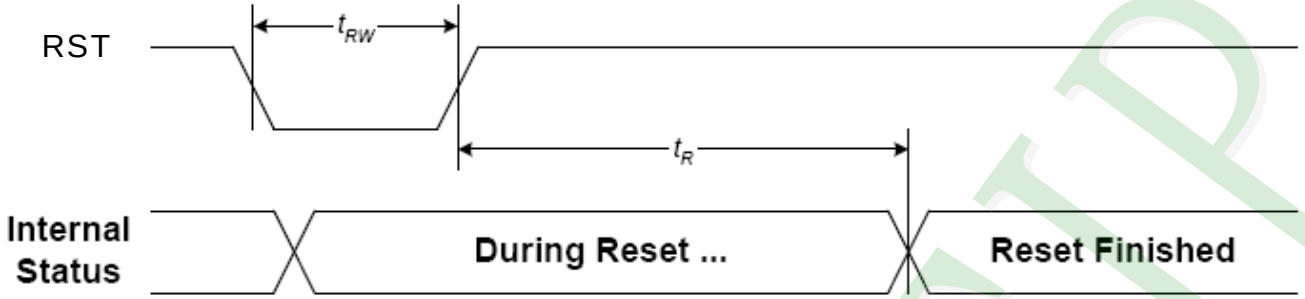
C

VDD=2.8V. Ta = -20°C～70°C

Item	Signal	Symbol	Condition	Rating		Units
				Min.	Max.	
Serial Clock Period	SCL	tSCYC		200	—	ns
SCL "H" pulse width		tSHW		80	—	
SCL "L" pulse width		tSLW		80	—	
Data setup time	SID	tSDS		60	—	
Data hold time		tSDH		30	—	
CS-SCL time	CSB	tCSS		40	—	
CS-SCL time		tCSH		100	—	

- The input signal rise and fall time (tr, tf) are specified at 15 ns or less.
- All timing is specified using 20% and 80% of VDD1 as the standard.

LCD Reset

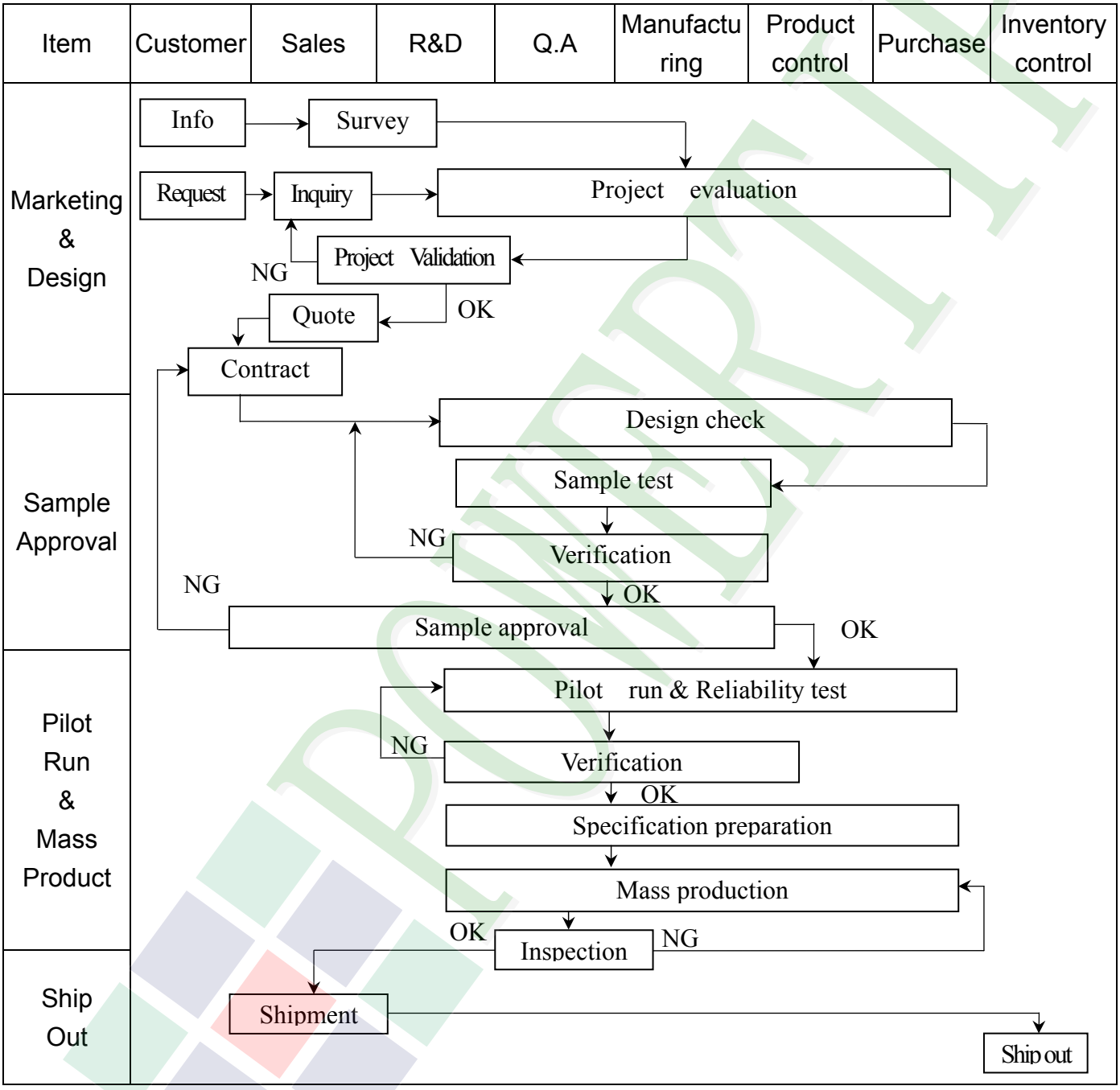


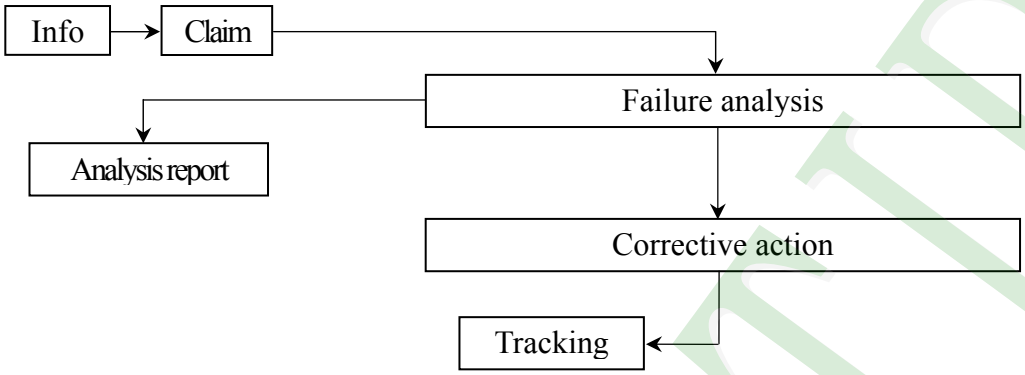
VDD=2.8V. Ta = -20°C～70°C

Item	Signal	Symbol	Condition	Rating			Units
				Min.	Typ.	Max.	
Reset time		tR		120	—	—	ms
Reset "L" pulse width	RST	tRW		2.0	—	—	us

3. QUALITY ASSURANCE SYSTEM

3.1 Quality Assurance Flow Chart



Item	Customer	Sales	R&D	Q.A	Manufacturing	Product control	Purchase	Inventory control
Sales Service								
Q.A Activity	1. ISO 9001 Maintenance Activities 2. Process improvement proposal 3. Equipment calibration 4. Education And Training Activities 5. Standardization Management							

3.2 Inspection Specification

◆Scope : The document shall be applied to LCD Module for Monotype and Color STN (Ver. 03).

◆Inspection Standard : MIL-STD-105E Table Normal Inspection Single Sampling Level Ⅱ .

◆Equipment : Gauge、MIL-STD、Powertip Tester、Sample

◆Defect Level : Major Defect AQL：0.4 ; Minor Defect：AQL： 1.5 .

◆OUT Going Defect Level : Sampling .

◆Manner of appearance test :

(1). The test be under 20W×2 fluorescent light ' and distance of view must be at 30 cm.

(2). Standard of inspection： (Unit：mm)

(3). The test direction is base on about around 45° of vertical line. (Fig. 1)

(4). Definition of area . (Fig. 2)

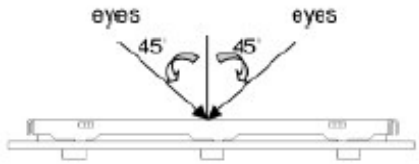


Fig.1

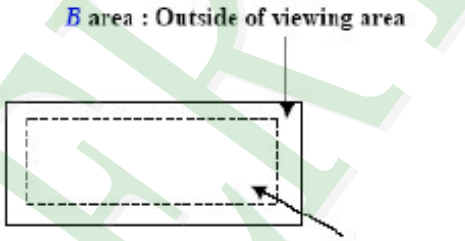


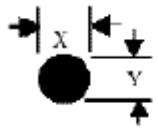
Fig. 2

◆ Specification:

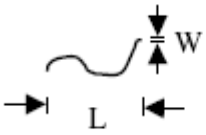
NO	Item	Criterion	level
01	Product condition	1.1 The part number is inconsistent with work order of Production.	Major
		1.2 Mixed production types.	Major
		1.3 Assembled in inverse direction.	Major
02	Quantity	2.1 The quantity is inconsistent with work order of production.	Major
03	Outline dimension	3.1 Product dimension and structure must conform to Structure diagram.	Major
04	Electrical Testing	4.1 Missing line character and icon.	Major
		4.2 No function or no display.	Major
		4.3 Output data is error.	Major
		4.4 LCD viewing angle defect.	Major
		4.5 Current consumption exceeds product specifications.	Major

◆Specification For Monotype and Color STN：　(Ver. 03)

<table>
<tr><th>NO</th><th>Item</th><th>Criterion</th><th>level</th></tr>
<tr><td>05</td><td>Black or white dot、scratch、contamination

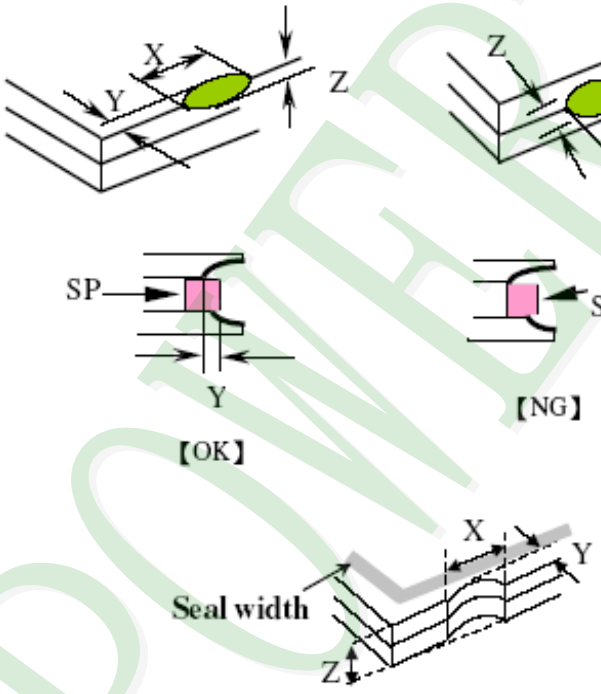
Round type
 

Φ=(x+y)/2

Line type
 
</td><td>5. 1 Round type:
5. 1. 1 display only :
• White and black spots on display ≦ 0. 30 mm , no more than 4 white or black spots present.
• Densely spaced : NO more than two spots or lines within 3 mm.

5. 1. 2 Non-display :
<table>
<tr><th rowspan="2">Dimension (diameter : Φ)</th><th colspan="2">Acceptance (Q'ty)</th></tr>
<tr><th>A area</th><th>B area</th></tr>
<tr><td>Φ ≦ 0. 10</td><td>Accept no dense</td><td rowspan="4">Ignore</td></tr>
<tr><td>0. 10 ＜ Φ ≦ 0. 20</td><td>3</td></tr>
<tr><td>0. 20 ＜ Φ ≦ 0. 30</td><td>2</td></tr>
<tr><td>Total quantity</td><td>4</td></tr>
</table>
5. 1. 3 Line type:
<table>
<tr><th colspan="2">Dimension</th><th colspan="2">Acceptance (Q'ty)</th></tr>
<tr><th>Length (L)</th><th>Width (W)</th><th>A area</th><th>B area</th></tr>
<tr><td>---</td><td>W ≦ 0. 03</td><td>Accept no dense</td><td rowspan="3">Ignore</td></tr>
<tr><td>L ≦ 3. 0</td><td>0. 03 ＜ W ≦ 0. 05</td><td rowspan="2">4</td></tr>
<tr><td>L ≦ 2. 5</td><td>0. 05 ＜W ≦ 0. 075</td></tr>
<tr><td>---</td><td>W ＞0. 075</td><td colspan="2">As round type</td></tr>
</table></td><td>Minor</td></tr>
<tr><td>06</td><td>Polarizer Bubble</td><td>
<table>
<tr><th rowspan="2">Dimension (diameter : Φ)</th><th colspan="2">Acceptance (Q'ty)</th></tr>
<tr><th>A area</th><th>B area</th></tr>
<tr><td>Φ ≦ 0. 20</td><td>Accept no dense</td><td rowspan="5">Ignore</td></tr>
<tr><td>0. 20 ＜Φ ≦ 0. 50</td><td>3</td></tr>
<tr><td>0. 50 ＜Φ ≦ 1. 00</td><td>2</td></tr>
<tr><td>Φ ＞ 1. 00</td><td>0</td></tr>
<tr><td>Total quantity</td><td>4</td></tr>
</table></td><td>Minor</td></tr>
</table>

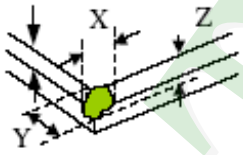
◆Specification For Monotype and Color STN：　(Ver. 03)

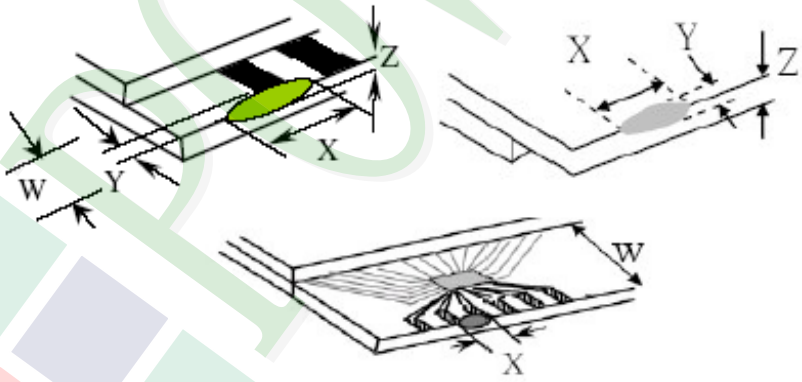
NO	Item	Criterion	Level
07	The crack of glass	Symbols： X：The length of crack　Y：The width of crack. Z：The thickness of crack　W：terminal length t：The thickness of glass　a：LCD side length 7.1 General glass chip： 7.1.1 Chip on panel surface and crack between panels:  	Minor

X	Y	Z
≦ a	Crack can't enter viewing area	≦1/2 t
≦ a	Crack can't exceed the half of SP width.	1/2 t < Z ≦2 t

◆Specification For Monotype and Color STN：　(Ver. 03)

<table>
<tr><th>NO</th><th>Item</th><th>Criterion</th><th>Level</th></tr>
<tr><td rowspan="3">07</td><td rowspan="3">The crack of glass</td><td>Symbols：

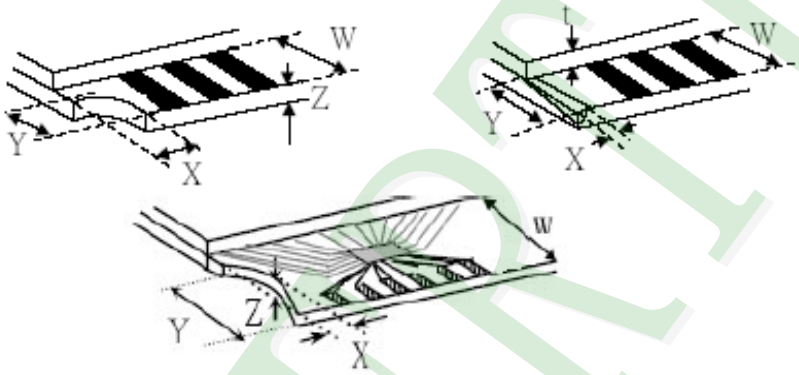
X : The length of crack　　Y : The width of crack.
Z : The thickness of crack　　W : terminal length
t : The thickness of glass　　a : LCD side length</td><td rowspan="3">Minor</td></tr>
<tr><td>7.1.2 Corner crack：
 

<table>
<tr><th>X</th><th>Y</th><th>Z</th></tr>
<tr><td>≦1/5 a</td><td>Crack can't enter viewing area</td><td>Z ≦ 1/2 t</td></tr>
<tr><td>≦1/5 a</td><td>Crack can't exceed the half of SP width.</td><td>1/2 t < Z ≦ 2 t</td></tr>
</table></td></tr>
<tr><td>7.2 Protrusion over terminal：
7.2.1 Chip on electrode pad：
 

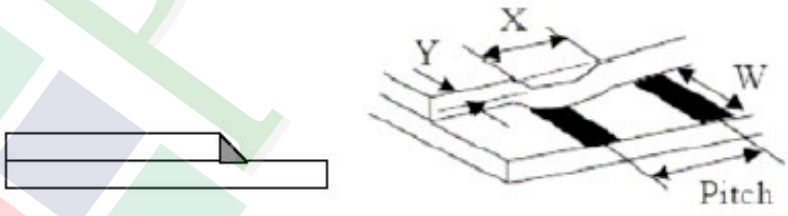
<table>
<tr><th></th><th>X</th><th>Y</th><th>Z</th></tr>
<tr><td>Front</td><td>≦ a</td><td>≦ 1/2 W</td><td>≦ t</td></tr>
<tr><td>Back</td><td colspan="3">Neglect</td></tr>
</table></td></tr>
</table>

◆Specification For Monotype and Color STN：　(Ver. 03)

<table>
<tr><th>NO</th><th>Item</th><th>Criterion</th><th>Level</th></tr>
<tr><td rowspan="2">07</td><td rowspan="2">The crack of glass</td><td>Symbols：

X : The length of crack　　Y : The width of crack.
Z : The thickness of crack　　W : terminal length
t : The thickness of glass　　a : LCD side length</td><td rowspan="2">Minor</td></tr>
<tr><td>7.2.2 Non-conductive portion：
 

<table><tr><th>X</th><th>Y</th><th>Z</th></tr><tr><td>≦1/3 a</td><td>≦W</td><td>≦t</td></tr></table>
⊙ If the chipped area touches the ITO terminal, over 2/3 of the ITO must remain and be inspected according to electrode terminal specifications.

7.2.3 Glass remain：
 

<table><tr><th>X</th><th>Y</th><th>Z</th></tr><tr><td>≦ a</td><td>≦ 1/3 W</td><td>≦ t</td></tr></table></td></tr>
</table>

◆Specification For Monotype and Color STN：　(Ver. 03)

NO	Item	Criterion	Level
08	Backlight elements	8. 1 Backlight can't work normally.	Major
		8. 2 Backlight doesn't light or color is wrong.	Major
		8. 3 Illumination source flickers when lit.	Major
09	General appearance	9. 1 Pin type must match type in specification sheet.	Major
		9. 2 No short circuits in components on PCB or FPC.	Major
		9. 3 Product packaging must the same as specified on packaging specification sheet.	Minor
		9. 4 The folding and peeled off in polarizer are not acceptable.	Minor
		9. 5 The PCB or FPC between B/L assembled distance (PCB or FPC) is ≦1. 5 mm.	Minor

4. RELIABILITY TEST

4.1 Reliability Test Condition

Ver.0

NO.	TEST ITEM	TEST CONDITION
1	High Temperature Storage Test	Keep in +80 ±2℃ 96 hrs Surrounding temperature, then storage at normal condition 4hrs.
2	Low Temperature Storage Test	Keep in -30 ±2℃ 96 hrs Surrounding temperature, then storage at normal condition 4hrs.
3	High Temperature / High Humidity Storage Test	Keep in +60℃ / 90% R.H duration for 96 hrs Surrounding temperature, then storage at normal condition 4hrs. (Excluding the polarizer)
4	ESD Test	Air Discharge: Apply 2 KV with 5 times Discharge for each polarity +/- ; Contact Discharge: Apply 250 V with 5 times discharge for each polarity +/- 1. Temperature ambiance : 15℃～35℃ 2. Humidity relative : 30%～60% 3. Energy Storage Capacitance(Cs+Cd) : 150pF±10% 4. Discharge Resistance(Rd) : 330Ω±10% 5. Discharge, mode of operation : Single Discharge (time between successive discharges at least 1 sec) (Tolerance if the output voltage indication : ±5%)
5	Temperature Cycling Storage Test	-20℃ → +25℃ → +70℃ → +25℃ (30mins) (5mins) (30mins) (5mins) 10 Cycle Surrounding temperature, then storage at normal condition 4hrs.
6	Vibration Test (Packaged)	1. Sine wave 10 55 Hz frequency (1 min) 2. The amplitude of vibration :1.5 mm 3. Each direction (X、Y、Z) duration for 2 Hrs
7	Drop Test (Packaged)	Packing Weight (Kg) / Drop Height (cm): 0 ~ 45.4 : 122 45.4 ~ 90.8 : 76 90.8 ~ 454 : 61 Over 454 : 46 Drop direction :※1 corner / 3 edges / 6 sides each 1times

5. PRECAUTION RELATING PRODUCT HANDLING

5.1 SAFETY

5.1.1 If the LCD panel breaks , be careful not to get the liquid crystal to touch your skin.

5.1.2 If the liquid crystal touches your skin or clothes , please wash it off immediately by using soap and water.

5.2 HANDLING

5.2.1 Avoid any strong mechanical shock which can break the glass.

5.2.2 Avoid static electricity which can damage the CMOS LSI—When working with the module , be sure to ground your body and any electrical equipment you may be using.

5.2.3 Do not remove the panel or frame from the module.

5.2.4 The polarizing plate of the display is very fragile. So , please handle it very carefully ,do not touch , push or rub the exposed polarizing with anything harder than an HB pencil lead (glass , tweezers , etc.)

5.2.5 Do not wipe the polarizing plate with a dry cloth , as it may easily scratch the surface of plate.

5.2.6 Do not touch the display area with bare hands , this will stain the display area.

5.2.7 Do not use ketonics solvent & aromatic solvent. Use with a soft cloth soaked with a cleaning naphtha solvent.

5.2.8 To control temperature and time of soldering is 320±10℃and 3-5 sec.

5.2.9 To avoid liquid (include organic solvent) stained on LCM .

5.3 STORAGE

5.3.1 Store the panel or module in a dark place where the temperature is 25℃ ±5℃ and the humidity is below 65% RH.

5.3.2 Do not place the module near organics solvents or corrosive gases.

5.3.3 Do not crush , shake , or jolt the module.

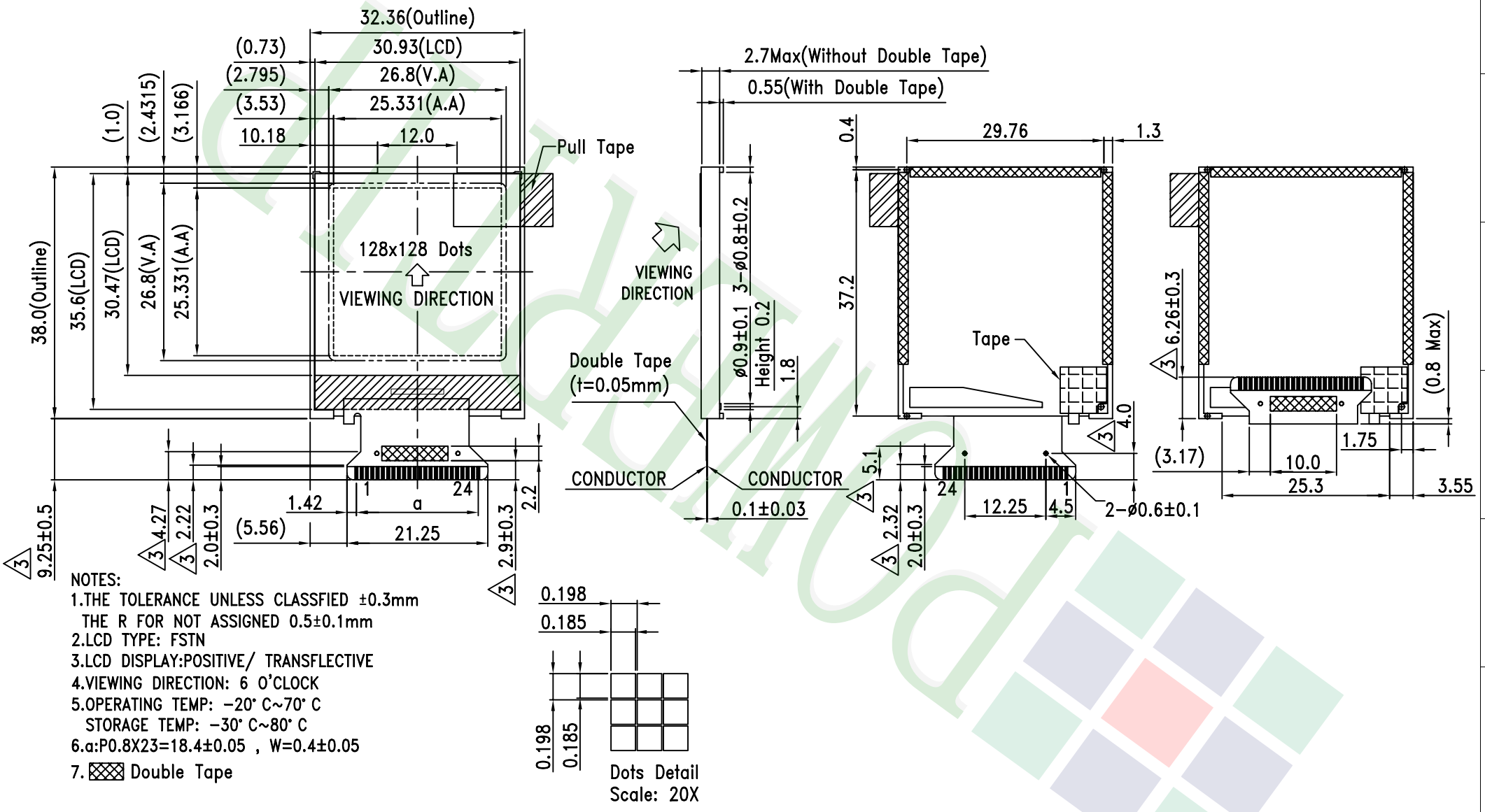
5.4 TERMS OF WARRANTY

5.4.1 Applicable warrant period

The period is within thirteen months since the date of shipping out under normal using and storage conditions.

5.4.2 Unaccepted responsibility

This product has been manufactured to your company's specification as a part for use in your company's general electronic products. It is guaranteed to perform according to delivery specifications. For any other use apart from general electronic equipment , we cannot take responsibility if the product is used in nuclear power control equipment , aerospace equipment , fire and security systems or any other applications in which there is a direct risk to human life and where extremely high levels of reliability are required.



NOTES:
1. THE TOLERANCE UNLESS CLASSFIED ±0.3mm
   THE R FOR NOT ASSIGNED 0.5±0.1mm
2. LCD TYPE: FSTN
3. LCD DISPLAY:POSITIVE/ TRANSFLECTIVE
4. VIEWING DIRECTION: 6 O'CLOCK
5. OPERATING TEMP: −20° C~70° C
   STORAGE TEMP: −30° C~80° C
6. a:P0.8X23=18.4±0.05 , W=0.4±0.05
7. ▨ Double Tape

REV	REV BY	REVISER	DATE
007			
006			
005			
004			
003	Modify FPC	Mag	2009/05/06
002	Modify dim of LCD V.A	Mag	2009/04/06
001	NEW DRAWING	Mag	2009/04/01

PART NO: PE128128WRF-013-HQ

DRAWING NAME : LMD-PE128128WRF-013-HQ

TITLE: LCD Module Drawing

久正光電股份有限公司
POWERTIP TECHNOLOGY CORPORATION

Design	Mag	⟨3⟩	Surface		
Check	Stone	Unit	MM	Material	
Approve	Linda	Scale	1:0.8	Thickness	
		Page	1/1	Quantity	

Length(Min) (mm)	Tolerance	Precision	Precision Level
1 ~ 4			-
4 ~ 16			-
16 ~ 63			-
63 ~ 250			-
250 ~ 1000			-

PT-A-054-01

Ver.001

Documents NO.	PKG-PE128128WRF-013-HQ

LCM包裝規格書
LCM Packaging Specifications

Approve	Check	Contact
Linda	Stone	Mag

1.包裝材料規格表 (Packaging Material) : (per carton)

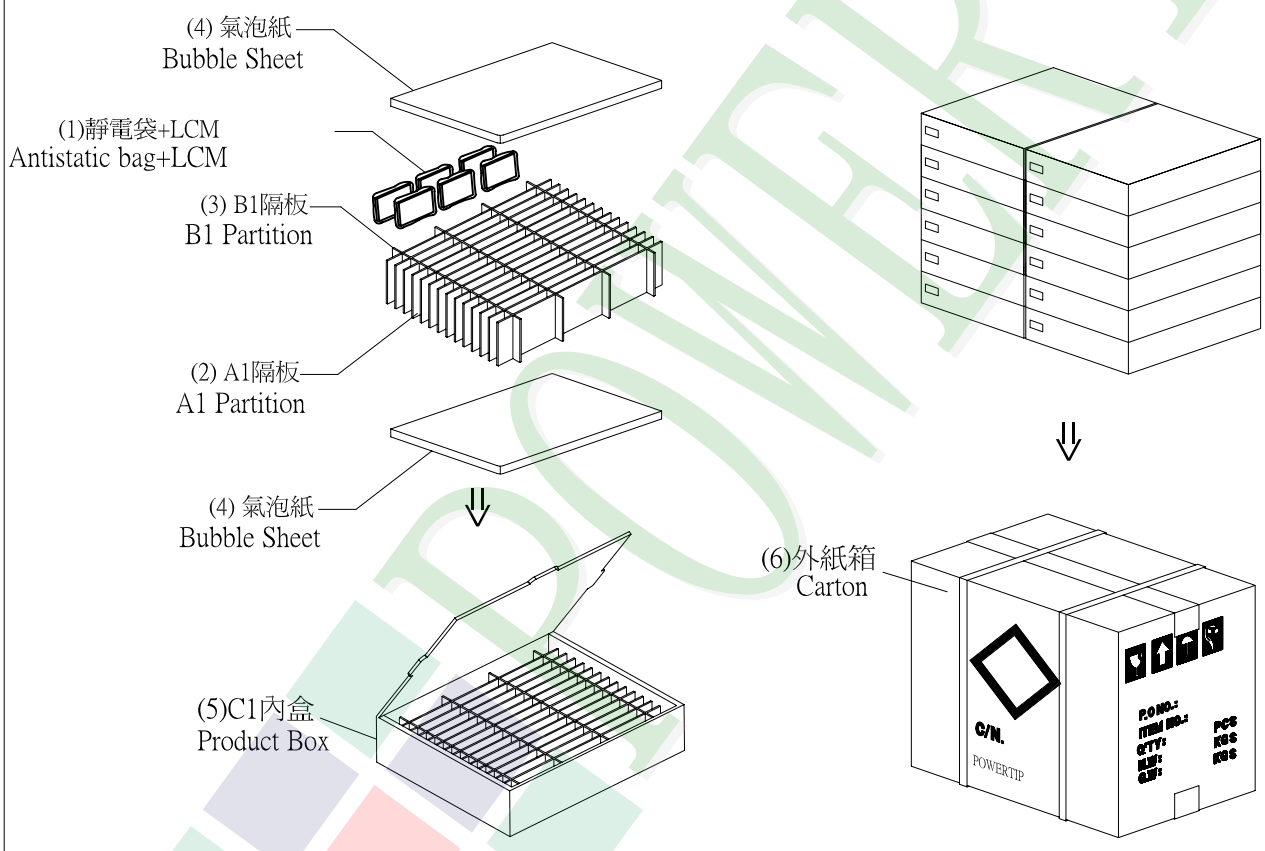
No.	Item	Model	Dimensions (mm)	1Pcs Weight	Quantity	Total Weight
1	成品 (LCM)	PE128128WRF-013-HQ	32.36 X 38.0	0.004	540	2.16
2	靜電袋(1)Antistatic Bag	BAG100100ARABA	100 X 100	0.0011	540	0.594
3	A1隔板(2)A1 Partition	BX29300045BMBA	293 X 45 X 2.5	0.01	168	1.68
4	B1隔板(3)B1 Partition	BX24500045BKBA	245 X 45 X 2.5	0.008	48	0.384
5	氣泡紙(4)Bubble Sheet	BAG280240BWABA	280 X 240	0.006	24	0.144
6	C1內盒(5)Product Box	BX31025555AABA	310 X 255 X 55	0.171	12	2.052
7	外紙箱(6)Carton	BX52732536CCBA	527 X 325 X 360	1.092	1	1.092
8						
9						

2.一 整箱總重量 (Total LCD Weight in carton) : 8.11 Kg±10%

3.單箱數量規格表 (Packaging Specifications and Quantity) :

(1)Quantity Of Spacer : A1隔板 X 14 , B1隔板 X 4

(2)Total LCM quantity in carton : quantity per box 45 x no of boxes 12 = 540



特 記 事 項 (REMARK)

1. Label Specifications :

MODEL:
LOT NO:
QUANTITY:
CHECK: