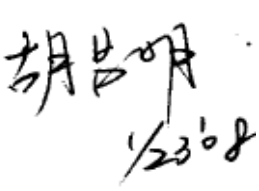
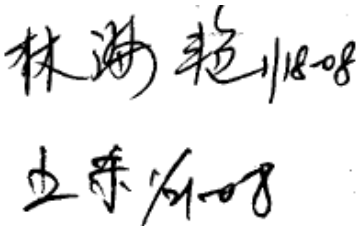
POWERTIP TECH. CORP.

SPECIFICATIONS

CUSTOMER	.	台達
SAMPLE CODE (Ver.)	.	**PS1601LRS-EWA-H-01(VER.0)**
MASS PRODUCTION CODE (Ver.)	:	**PC1601LRS-EWA-H-Q(VER.0)**
DRAWING NO. (Ver.)		**DMD-08081(VER.0)**

Customer Approved

Date:

Approved	QC Confirmed	Designer
		

☐ Approval For Specifications Only.

* This specification is subject to change without notice.

Please contact Powertip or it's representative before designing your product based on this specification.

■ Approval For Specifications and Sample.

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RECORDS OF REVISION

Date	Ver.	Description	Page	Design by
2008/1/16	0	The sample (NO ROHS PRODUCTION)has changed the LCD ,which was based on the Powertip's MASS PRODUCTION : PC1601LRS-EWA-B		林海艷
2008/2/18	0	MASS PRODUCTION		林海艷

Total：24 Page

Contents

Note：For detailed information please refer to IC data sheet：ST7066U-0A

1. SPECIFICATIONS

1.1 Features

Item	Standard Value
Display Type	16*1 Characters
LCD Type	STN Gray Positive Transflective Extended Temp.
Driver Condition	LCD Module：1/16 Duty，1/4 Bias
Viewing Direction	6 O'clock
Backlight	LED YG B/L
Weight	—
Interface	—
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	80.0(L) * 36.0(w) * 14.0(H)(Max)	mm
Viewing Area	65.0(L) * 16.0(w)	mm
Active Area	59.62(L) * 6.56(w)	mm
Dot Size	0.55(L) * 0.75(w)	mm
Dot Pitch	0.63(L) * 0.83(w)	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	7.0	V
LCD Driver Supply Voltage	V_{LCD}	—	V_{DD}-10.0	V_{DD}+0.3	V
Input Voltage	V_{IN}	—	-0.3	V_{DD}+0.3	V
Operating Temperature	T_{OP}	—	-20	70	℃
Storage Temperature	T_{ST}	—	-30	80	℃
Storage Humidity	H_D	Ta＜60 ℃	-	90	%RH

1.4 DC Electrical Characteristics

V_{DD} = 5.0 V ± 0.5V，V_{SS} = 0V，Ta = 25℃

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Logic Supply Voltage	V_{DD}	—	4.5	5.0	5.5	V
"H" Input Voltage	V_{IH}	—	0.7 V_{DD}	-	V_{DD}	V
"L" Input Voltage	V_{IL}	—	-0.3	-	0.6	V
"H" Output Voltage	V_{OH}	I_{OH}=-0.1mA	3.9	-	V_{DD}	V
"L" Output Voltage	V_{OL}	I_{OL}=0.1mA	-	-	0.4	V
Supply Current	I_{DD}	V_{DD}=5.0V;Vop=4.5V; Pattern= Full display	-	1.1	-	mA
		V_{DD}=5.0V; Vop=4.5V; Pattern= Perpendicular line*1			3.0	
LCM Driver Voltage	V_{OP}*2	-20℃	4.4	4.6	4.8	V
		25℃	4.3	4.5	4.7	
		70℃	4.1	4.3	4.5	

NOTE: *1 The Maximum current display;

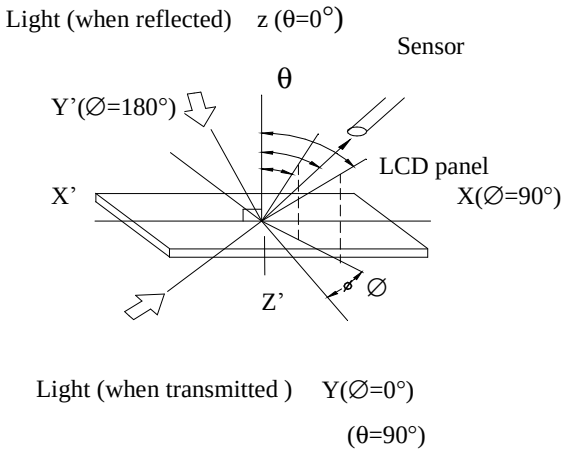
*2 The VOP test point is V_{DD}-V_O.

1.5 Optical Characteristics

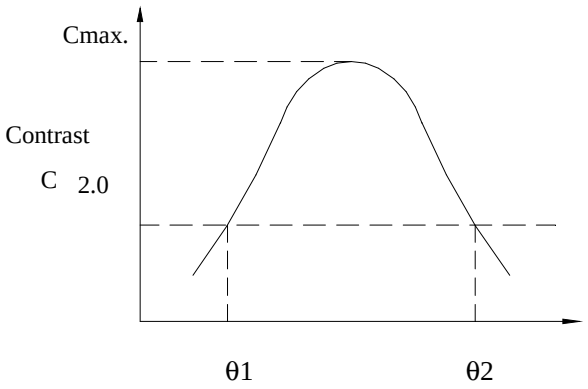
LCD Panel：1/16 Duty，1/4 Bias，V_{LCD} =4.2V，Ta = 25℃

Item	Symbol	Conditions	Min.	Typ.	Max.	Reference
View Angle	θ	C≥2.0, ∅ = 0°	0°	-	40°	Notes 1 & 2
Contrast Ratio	C	θ = 5°, ∅ = 0°	5	7	-	Note 3
Response Time(rise)	tr	θ = 5°, ∅ = 0°	-	150 ms	-	Note 4
Response Time(fall)	tf	θ = 5°, ∅ = 0°	-	300 ms	-	Note 4

Note 1: Definition of angles θ and ∅



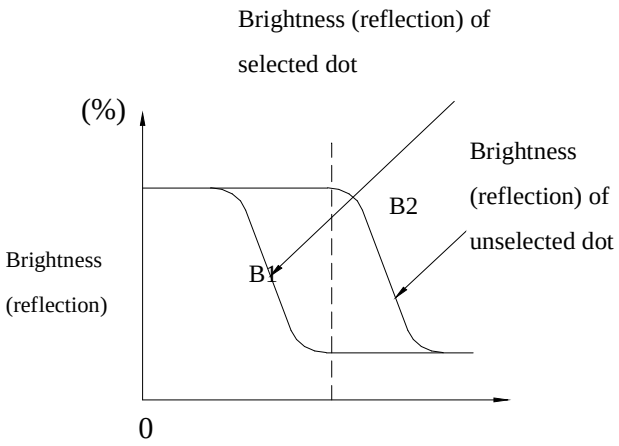
Note 2: Definition of viewing angles θ1 and θ2



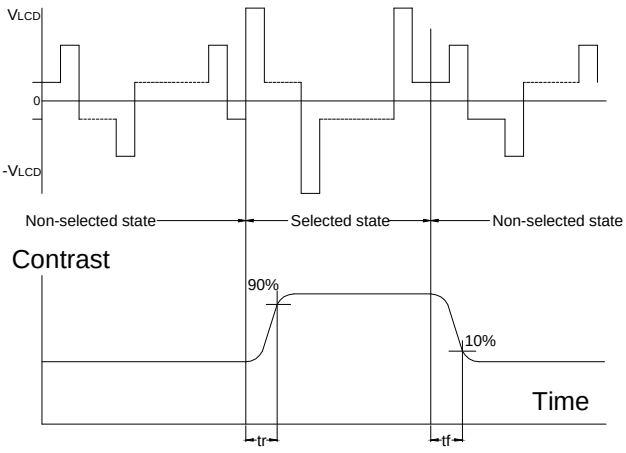
Note : Optimum viewing angle with the naked eye and viewing angle θ at Cmax. Above are not always the same

Note 3: Definition of contrast C

$$C = \frac{\text{Brightness (reflection) of unselected dot (B2)}}{\text{Brightness (reflection) of selected dot (B1)}}$$



Note 4: Definition of response time



Note: Measured with a transmissive LCD panel which is displayed 1 cm^2

V_{LCD} : Operating voltage f_{FRM} : Frame frequency

t_r : Response time (rise) t_f : Response time (fall)

1.6 Backlight Characteristics

LCD Module with LED Backlight

Maximum Ratings

Item	Symbol	Conditions	Min.	Max.	Unit
Forward Current	IF	Ta =25℃	-	300	mA
Reverse Voltage	VR	Ta =25℃	-	8	V
Power Dissipation	PO	Ta =25℃	-	1.38	W
Operating Temperature	T_{OP}	-	-20	70	℃
Storage Temperature	T_{ST}	-	-30	80	℃
Solder Temp. for 3 Second	-	-	-	330	℃

Electrical / Optical Characteristics

Ta =25℃

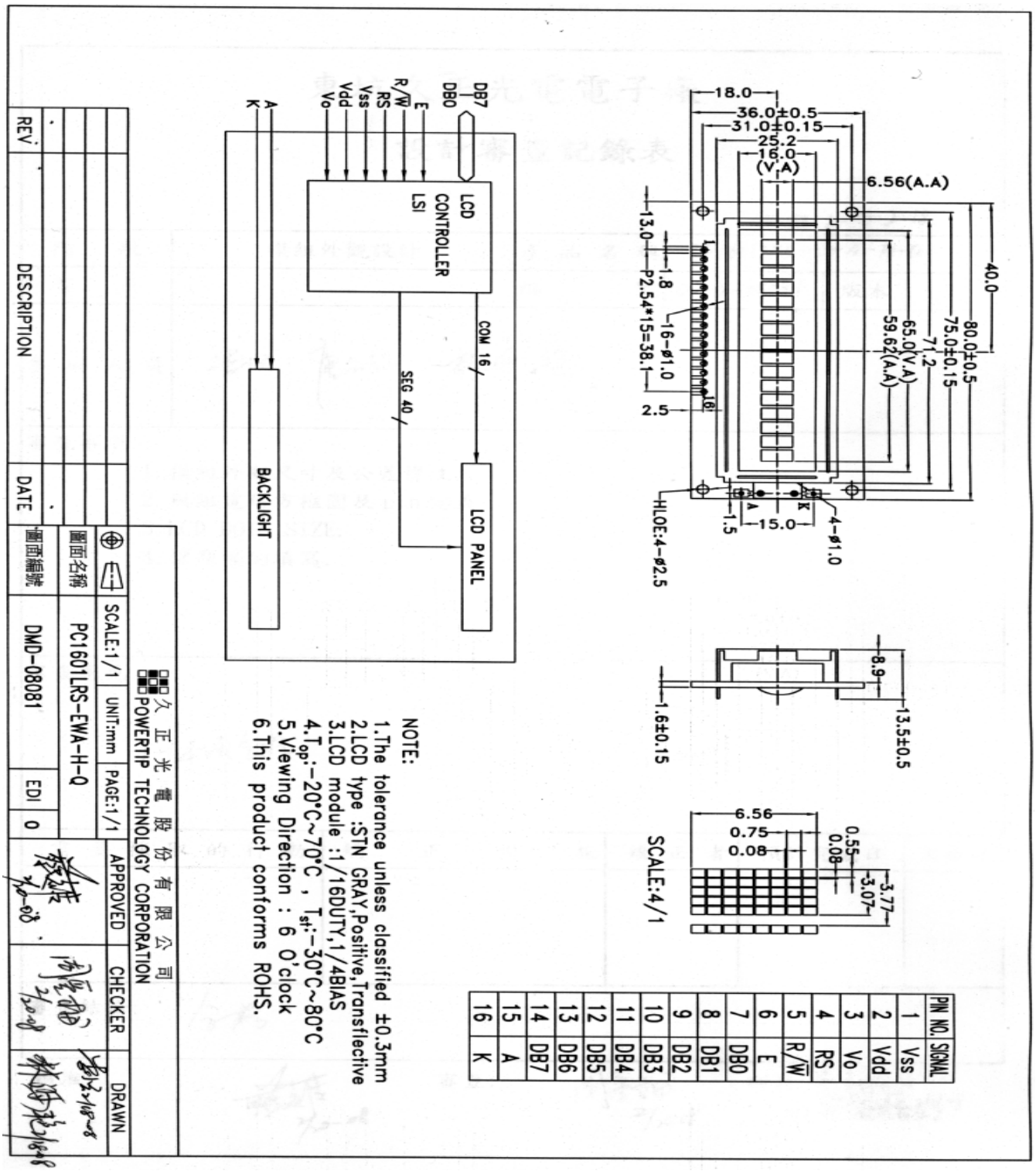
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward Voltage	VF	IF= 120 mA	-	4.2	4.6	V
Reverse Current	IR	VR= 8 V	-	-	0.2	mA
Average Brightness (with LCD) *1	IV	IF=120 mA	30	45	-	cd/m^2
Wavelength	λp	IF=120 mA	569	-	576	nm
Uniformity *2	△B	IF =120 mA	70	-	-	%
Color	Yellow-green					

*1 This vaule will be changed while mass production

*2 ΔB=B(min)/B(max)

2. MODULE STRUCTURE

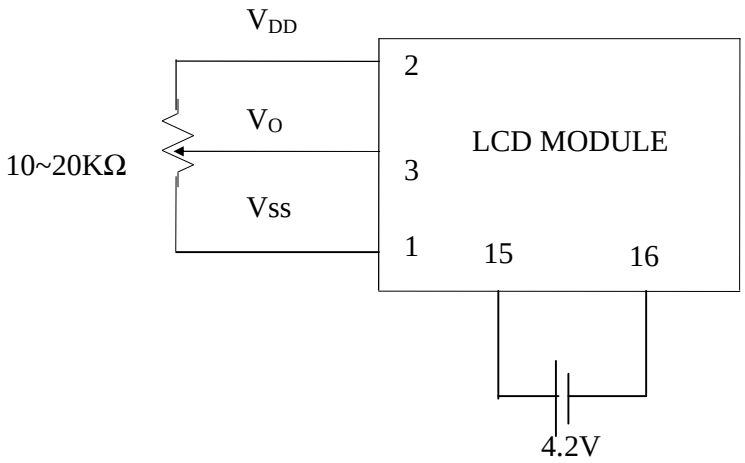
2.1 Counter Drawing



2.2 Interface Pin Description

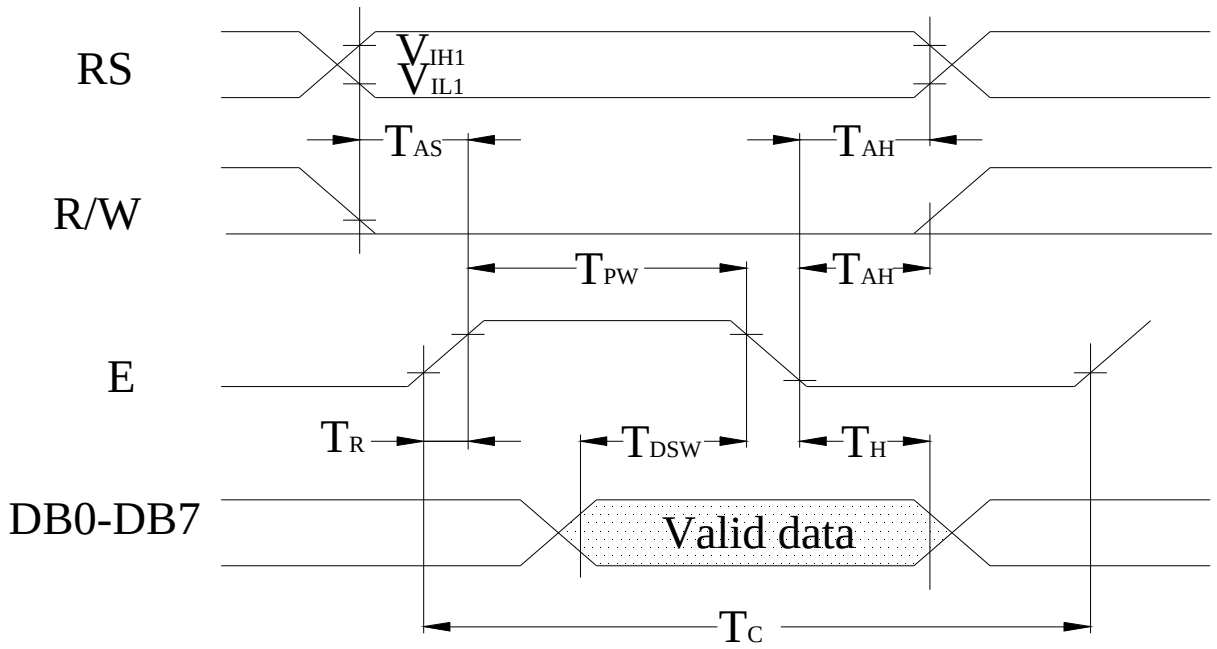
Pin No.	Symbol	Signal Description
1	VSS	Signal ground (GND)
2	VDD	Power Supply (VDD> VSS)
3	VO	Operating voltage (LCD Driver)
4	RS	Register Selection input High = Data register Low = Instruction register (for write) Busy flag address counter (for read)
5	$\overline{R/W}$	Read/Write signal input is used to select the read/write mode. High = Read mode, Low = Write mode
6	E	Start enable signal to read or write the data
7~10	DB0 ~ DB3	Four low order bi-directional three-state data bus lines. Use for data transfer between the MPU and the LCD module. These four are not used during 4-bit operation.
11~14	DB4 ~ DB7	Four high order bi-directional three-state data bus lines. Used for data transfer between the MPU and the LCD module. DB7 can be used as a busy flag.
15	A	Power supply LED backlight (+)
16	K	Power supply LED backlight (-)

Contrast Adjust

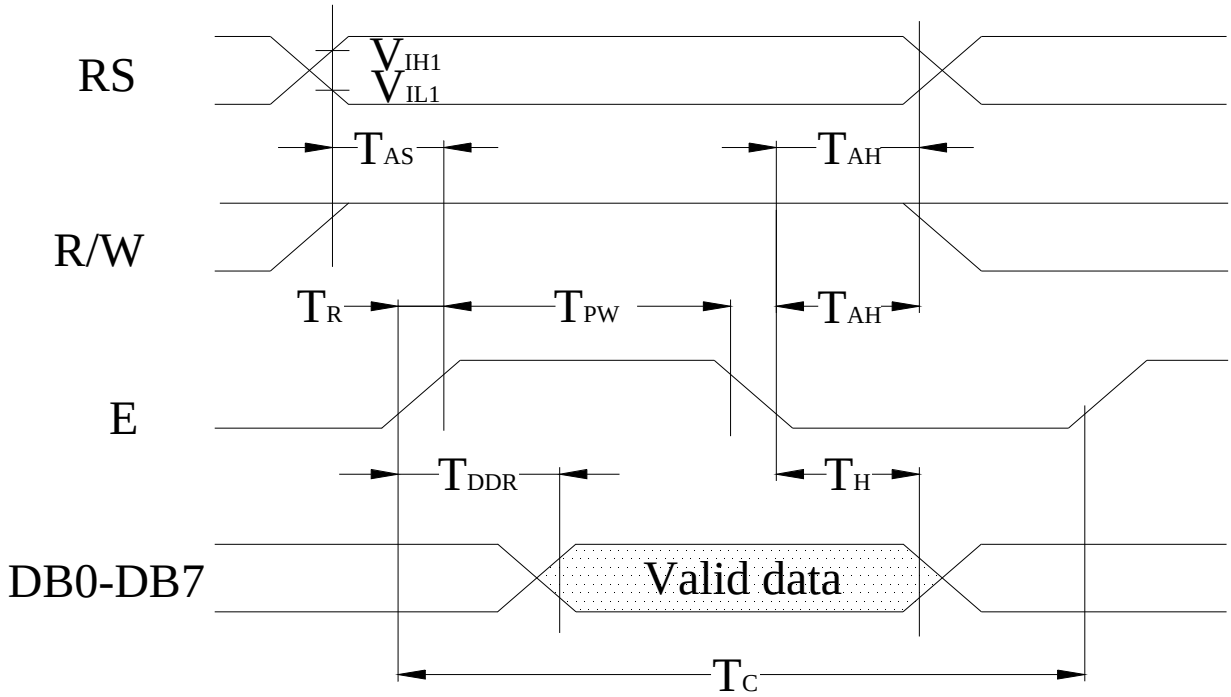


2.3 Timing Characteristics

- Writing data from MPU to ST7066U



- Reading data from ST7066U to MPU



- Write Mode (Writing data from MPU to ST7066U)

(V_{DD} = +5V,Ta=25°C)

Symbol	Characteristics	Test Condition	Min.	Typ.	Max.	Unit
T_C	Enable Cycle Time	Pin E	1200	-	-	ns
T_{PW}	Enable Pulse Width	Pin E	140	-	-	ns
T_R , T_F	Enable Rise / Fall Time	Pin E	-	-	25	ns
T_{AS}	Address Setup Time	Pins: RS , RW,E	0	-	-	ns
T_{AH}	Address Hold Time	Pins :RS,RW,E	10	-	-	ns
T_{DSW}	Data Setup Time	Pins:DB0~DB7	40	-	-	ns
T_H	Data Hold Time	Pins:DB0~DB7	10	-	-	ns

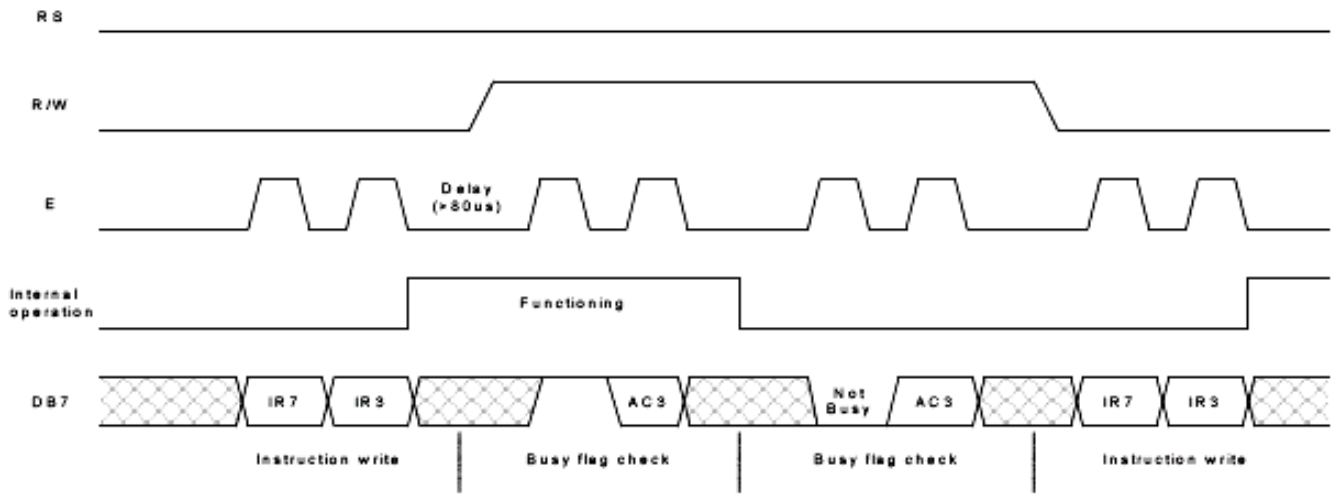
- Read Mode (Reading data from ST7066U to MPU)

(V_{DD} = +5V,Ta=25°C)

Symbol	Characteristics	Test Condition	Min.	Typ.	Max.	Unit
T_C	Enable Cycle Time	Pin E	1200	-	-	ns
T_{PW}	Enable Pulse Width	Pin E	140	-	-	ns
T_R , T_F	Enable Rise / Fall Time	Pin E	-	-	25	ns
T_{AS}	Address Setup Time	Pins: RS , RW,E	0	-	-	ns
T_{AH}	Address Hold Time	Pins :RS,RW,E	10	-	-	ns
T_{DDR}	Data Setup Time	Pins:DB0~DB7	-	-	100	ns
T_H	Data Hold Time	Pins:DB0~DB7	10	-	-	ns

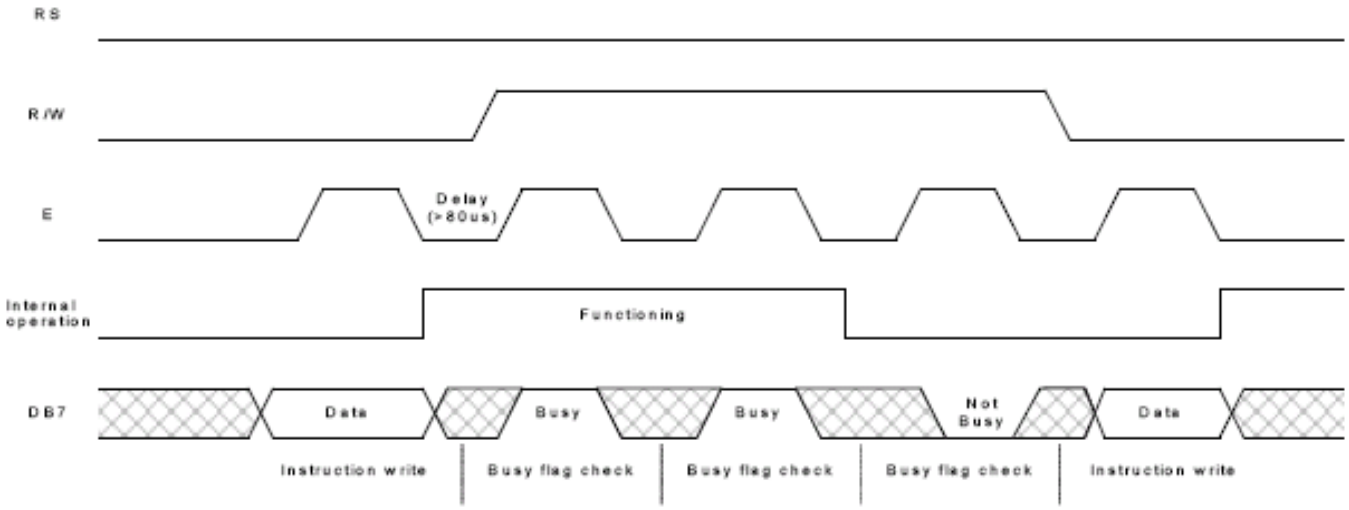
For 4-bit interface date, only four bus lines (DB4 to DB7) are used for transfer.

Example of busy flag check timing sequence



For 8-bit interface date, all eight bus lines (DB0 to DB7) are used .

Example of busy flag check timing sequence



2.4 Display Command

Instructions	Instruction Code										Description	Description Time (270KHz)
	RS	R/W	DB 7	DB 6	DB 5	DB 4	DB 3	DB 2	DB 1	DB 0		
Clear Display	0	0	0	0	0	0	0	0	0	1	Write "20H" to DDRAM. and set DDRAM address to "00H" from AC.	1.52ms
Return Home	0	0	0	0	0	0	0	0	1	×	Set DDRAM address to "00H" from AC and return cursor to it's original position if shifted. The contents of DDRAM are not changed.	1.52ms
Entry Mode Set	0	0	0	0	0	0	0	1	I/D	S	Sets cursor move direction and specifies display shift. These operations are performed during data write and read .	37μs
Display ON/OFF	0	0	0	0	0	0	1	D	C	B	D=1 : entire display on C=1 : cursor on B=1 : cursor position on	37μs
Cursor or Display Shift	0	0	0	0	0	1	S/C	R/L	×	×	Set cursor moving and display shift control bit, and the direction, without changing of DDRAM data.	37μs
Function Set	0	0	0	0	1	DL	N	F	×	×	DL: interface data is 8/4 bits NL: number of line is 2/1 F: font size is 5×11/5×8	37μs
Set CGRAM Address	0	0	0	1	AC 5	AC 4	AC 3	AC 2	AC 1	AC 0	Set CGRAM address in address counter.	37μs
Set DDRAM Address	0	0	1	AC 6	AC 5	AC 4	AC 3	AC 2	AC 1	AC 0	Set DDRAM address in address counter.	37μs

Read Busy Flag and Address	0	1	BF	AC 6	AC 5	AC 4	AC 3	AC 2	AC 1	AC 0	Whether during internal operation or not can be known by reading BF. The contents of address counter can also be read.	0μs
Write Data to RAM	1	0	D7	D6	D5	D4	D3	D2	D1	D0	Write data into internal RAM (DDRAM/CGRAM).	37μs
Read Data from RAM	1	1	D7	D6	D5	D4	D3	D2	D1	D0	Read data from internal RAM (DDRAM/CGRAM).	37μs

Note:

Be sure the ST7066U is not in the busy state (BF=0) before sending an instruction from the MPU to the ST7066.

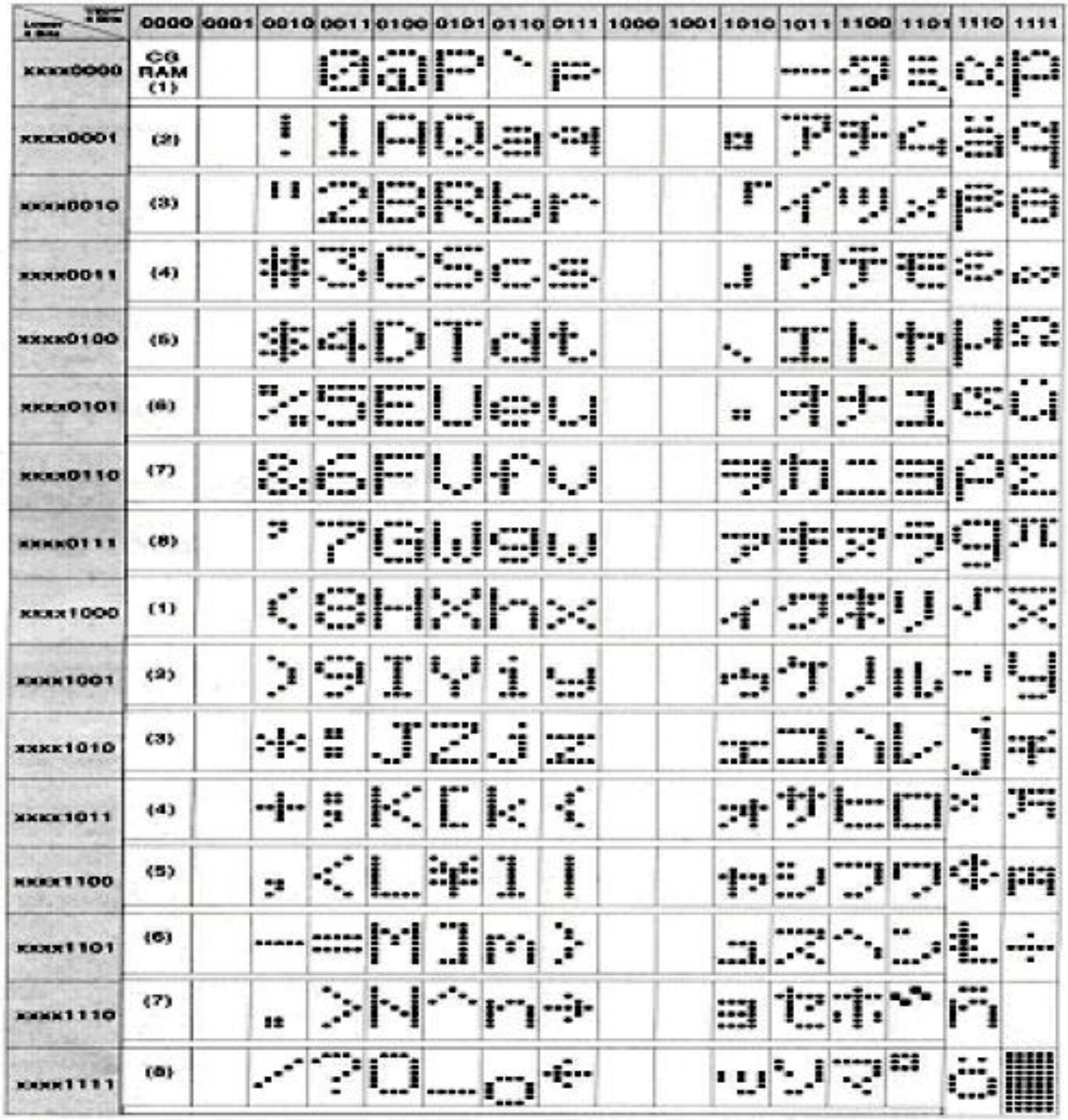
If an instruction is sent without checking the busy flag , the time between the first instruction and next instruction will take much longer than the instruction time itself.

Before checking BF, be sure to wait at least 80us.. Do not keep “E” always “High” for checking BF.

Refer to Instruction Table for the list of each instruction execution time .

2.5 Character Pattern

■ CHARACTER PATTERN(SO/HO/EA,WA)



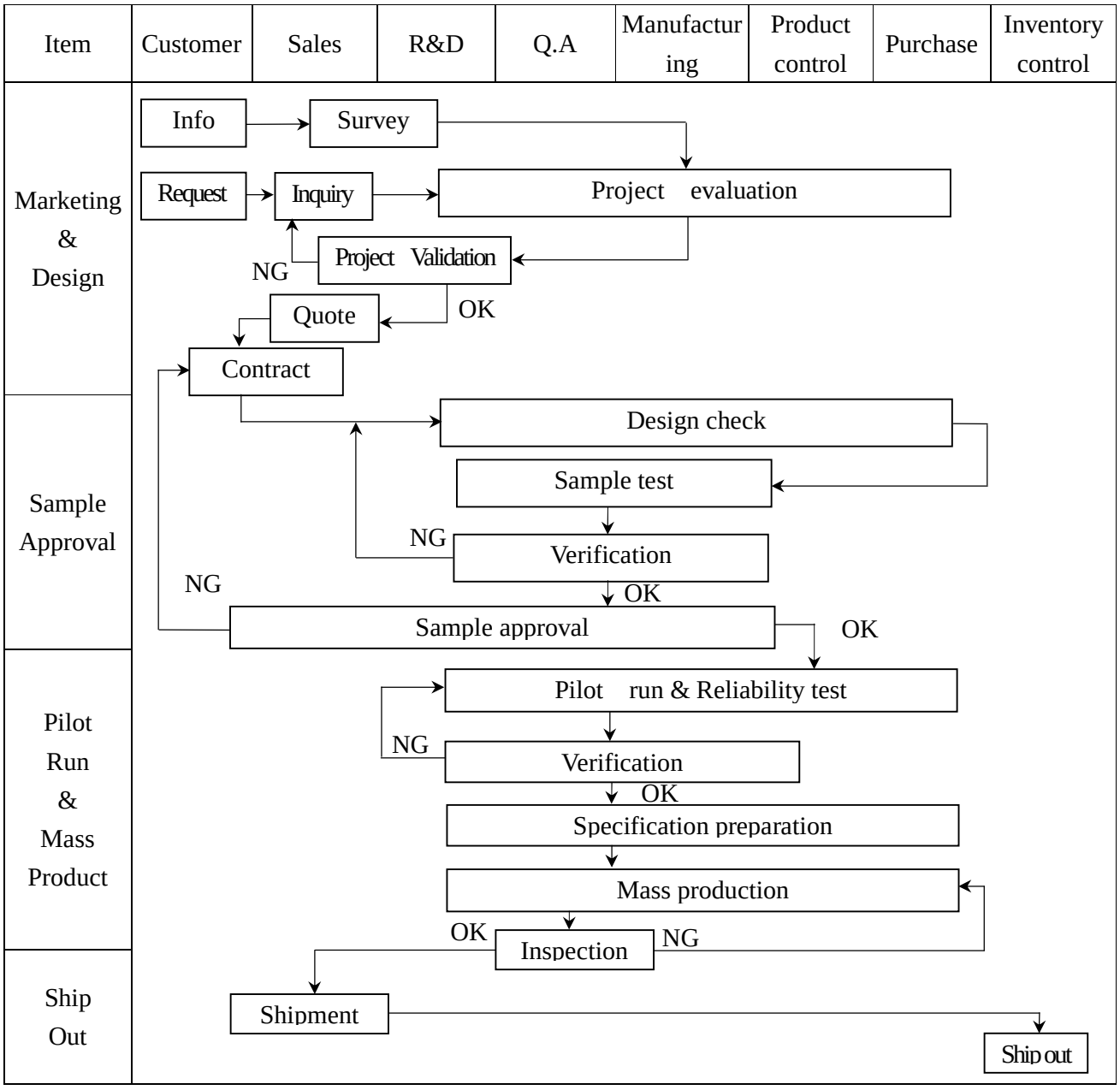
2.6 JUMPER(Setting different use)

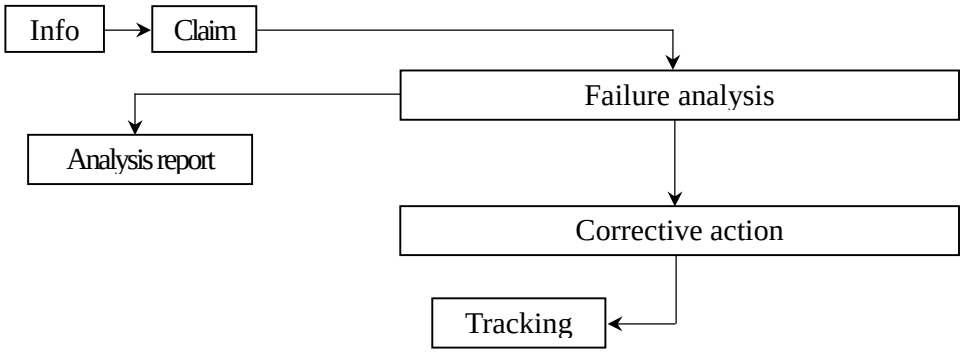
2.6.1 SHORT : J1/J3/J5

2.6.2 OPEN : The other unnoted jumpers

3. QUALITY ASSURANCE SYSTEM

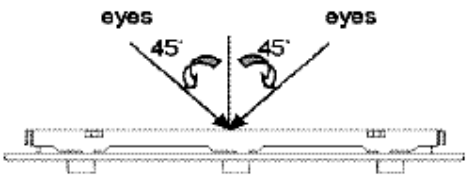
3.1 Quality Assurance Flow Chart

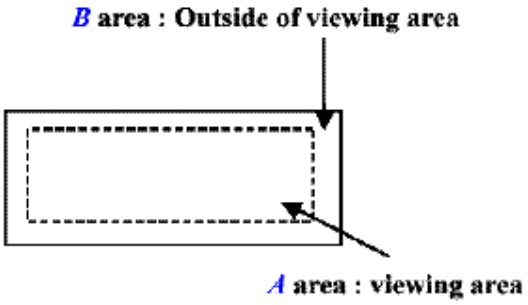


Item	Customer	Sales	R&D	Q.A	Manufacturing	Product control	Purchase	Inventory control
Sales Service								
Q.A Activity	1. ISO 9001 Maintenance Activities 3. Equipment calibration 5. Standardization Management				2. Process improvement proposal 4. Education And Training Activities			

3.2 Inspection Specification

◆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 40W×2 fluorescent light ’ and distance of view must be at 30 cm.
(2). The test direction is base on about around 45° of vertical line. (Fig. 1)
(3). Definition of area . (Fig. 2)

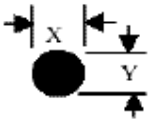


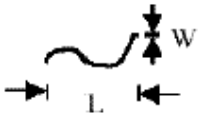
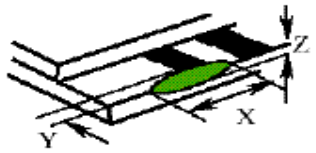


◆ Specification:

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、dot 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
05	Black or white dot、scratch、contamination Round type	5.1 Round type: 5.1.1 display only : • White and black spots on display ≦ 0.30mm, no more than Four white or black spots present. • Densely spaced : NO more than two spots or lines within 3mm	Minor

◆Specification :

<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
 
</td><td>5.1.2 Nom-display :
<table><tr><td>Dimension (diameter : Φ)</td><td>Acceptance(Q'ty)</td></tr><tr><td>Φ ≦0.10mm</td><td>Accept no dense</td></tr><tr><td>0.10mm＜Φ ≦0.20mm</td><td>3</td></tr><tr><td>0.20mm＜Φ ≦0.30mm</td><td>2</td></tr><tr><td>Total</td><td>4</td></tr></table>5.1.3 Line type:
<table><tr><td colspan="2">Dimension (diameter : Φ)</td><td colspan="2">Acceptance (Q'ty)</td></tr><tr><td>Length</td><td>width</td><td>A area</td><td>B area</td></tr><tr><td>---</td><td>w≦0.03mm</td><td>Accept no dense</td><td>Don't count</td></tr><tr><td>L≦3.0mm</td><td>0.03mm＜Φ ≦0.05mm</td><td rowspan="2">4</td><td>Don't count</td></tr><tr><td>L≦2.5mm</td><td>0.05mm＜Φ ≦0.075mm</td><td>Don't count</td></tr><tr><td>---</td><td>w＞0.075mm</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><td rowspan="2">Dimension (diameter : Φ)</td><td colspan="2">Acceptance(Q'ty)</td></tr><tr><td>A area</td><td>B area</td></tr><tr><td>Φ ≦0.20mm</td><td>Accept no dense</td><td>Don't count</td></tr><tr><td>0.20mm＜Φ ≦0.50mm</td><td>3</td><td>Don't count</td></tr><tr><td>0.50mm＜Φ ≦1.00mm</td><td>2</td><td>Don't count</td></tr><tr><td>Φ ＞1.00mm</td><td>0</td><td>Don't count</td></tr><tr><td>Total quantity</td><td>4</td><td>Don't count</td></tr></table></td><td>Minor</td></tr>
<tr><td>07</td><td>The crack of glass</td><td>● Glass Crack:
7.1 Crack on the circuit of electrode terminal :
 

<table><tr><td></td><td>X</td><td>Y</td><td>Z</td></tr><tr><td>Front</td><td>X≦1/5 a</td><td>Y≦ 1/2 D</td><td>Z≦ t</td></tr><tr><td>Back</td><td colspan="3">Neglect</td></tr></table></td><td>Minor</td></tr>
</table>

◆Specification :

<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

X: The length of Crack

Y: The width of crack

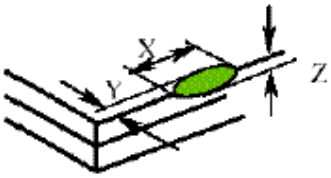
Z: The thickness of crack

D: terminal length

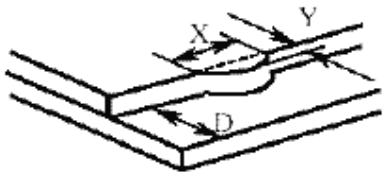
T: The thickness of glass

A : The length of glass</td><td>● Glass Crack:

7.2 General glass crack and corner edge:

7.2.1
 

<table><tr><td>X</td><td>Y</td><td>Z</td></tr><tr><td>Neglect</td><td>Out A area</td><td>Neglect</td></tr></table>
7.2.2
 

<table><tr><td>X</td><td>Y</td><td>Z</td></tr><tr><td>Neglect</td><td>Out A area</td><td>Neglect</td></tr></table></td><td>Minor</td></tr>
<tr><td>7.3 Glass remain:
 

<table><tr><td>X</td><td>Y</td></tr><tr><td>Neglect</td><td>≦ 1/3 d</td></tr></table></td><td>Minor</td></tr>
</table>

◆Specification :

<table>
<tr><th>NO</th><th>Item</th><th>Criterion</th><th>Level</th></tr>
<tr><td>07</td><td>The crack of glass

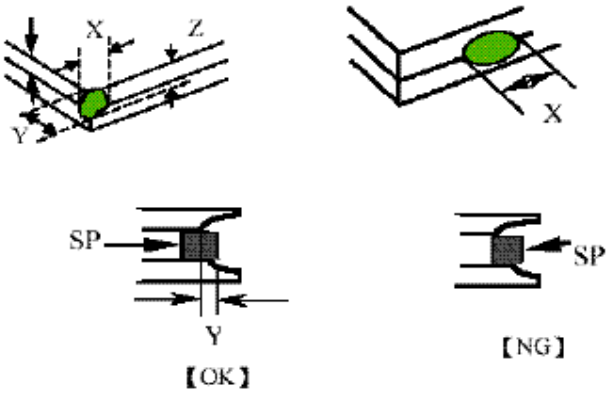
X: The length of Crack

Y: The width of crack

Z: The thickness of crack

D: terminal length

T: The thickness of glass

A : The length of glass</td><td>7.4 Corner crack and medial crack:
 

<table>
<tr><th>X</th><th>Y</th><th>Z</th></tr>
<tr><td>≦1/5a</td><td>Crack can’t enter viewing area</td><td>≦1/2t</td></tr>
<tr><td>≦1/5a</td><td>Crack can’t exceed the half of width of SP width of SP</td><td>1/2t<Z≦2t</td></tr>
</table></td><td>Minor</td></tr>
<tr><td>08</td><td>Backlight elements</td><td>8.1 Backlight can’t work normally.</td><td>Major</td></tr>
<tr><td></td><td></td><td>8.2 Backlight doesn’t light or color is wrong.</td><td>Major</td></tr>
<tr><td></td><td></td><td>8.3 Illumination source flickers when lit.</td><td>Major</td></tr>
<tr><td>09</td><td>General appearance</td><td>9.1 pin type must match type in specification sheet</td><td>Major</td></tr>
<tr><td></td><td></td><td>9.2 No short circuits in components on PCB or FPC</td><td>Major</td></tr>
<tr><td></td><td></td><td>9.3Product packaging must the same as specified on packaging specification sheet.</td><td>Major</td></tr>
<tr><td></td><td></td><td>9.4 The folding and peeled off in polarizer are not acceptable</td><td>Major</td></tr>
<tr><td></td><td></td><td>9.5 The PCB or FPC between B/L assembled distance (PCB or FPC) is ≦1.5mm</td><td>Major</td></tr>
</table>

4. RELIABILITY TEST

4.1 Reliability Test Condition

<table>
<tr><th>NO.</th><th>TEST ITEM</th><th colspan="2">TEST CONDITION</th></tr>
<tr><td>1</td><td>High Temperature Storage Test</td><td colspan="2">Keep in 80 ±2℃ 96 hrs
Surrounding temperature, then storage at normal condition 4hrs</td></tr>
<tr><td>2</td><td>Low Temperature Storage Test</td><td colspan="2">Keep in -30 ±2℃ 96 hrs
Surrounding temperature, then storage at normal condition 4hrs</td></tr>
<tr><td>3</td><td>High Humidity Storage</td><td colspan="2">Keep in +60℃/90%RH duration for 96 hrs
Surrounding temperature, then storage at normal condition 4hrs
(Excluding the polarizer)Or
Keep in +40℃/90%RH duration for 96 hrs
Surrounding temperature, then storage at normal condition 4hrs</td></tr>
<tr><td rowspan="2">4</td><td rowspan="2">ESD Test</td><td>Air Discharge:
Apply 6 KV with 5 times
Discharge for each polarity +/-</td><td>Contact Discharge:
Apply 250V with 5 times
discharge for each polarity +/-</td></tr>
<tr><td colspan="2">1. Temperature ambient: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 s)
(Tolerance lf the output voltage indication: ±5%)</td></tr>
<tr><td>5</td><td>Temperature Cycling Test</td><td colspan="2">-20℃ → 25℃ → 70℃ → 25℃
(30mins) (5mins) (30mins) (5mins)
10 Cycle
Surrounding temperature, then storage at normal condition 4hrs</td></tr>
<tr><td>6</td><td>Vibration Test (Packaged)</td><td colspan="2">1. Sine wave 10～55HZ frequency (1 min)
2. The amplitude of vibration :1.5 mm
3. Each direction (XYZ) duration for 2 Hrs</td></tr>
<tr><td>7</td><td>Drop Test (Packaged)</td><td colspan="2"><table><tr><th>Packing Weight (Kg)</th><th>Drop Height (cm)</th></tr><tr><td>0 ~ 45.4</td><td>122</td></tr><tr><td>45.4 ~ 90.8</td><td>76</td></tr><tr><td>90.8 ~ 454</td><td>61</td></tr><tr><td>Over 454</td><td>46</td></tr></table>Drop direction :※3 comer /1 edges /6 sides etch 1times</td></tr>
</table>

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.

6. PACKING Specification

LCM Model	PC1601LRS-EWA-H-Q
Drawing NO.	DPK-08085

LCM包裝規格書
LCM Packaging Specifications

Approve	Check	Contact
DATE	初版	版次Ver
08'02'19	08'02'19	0

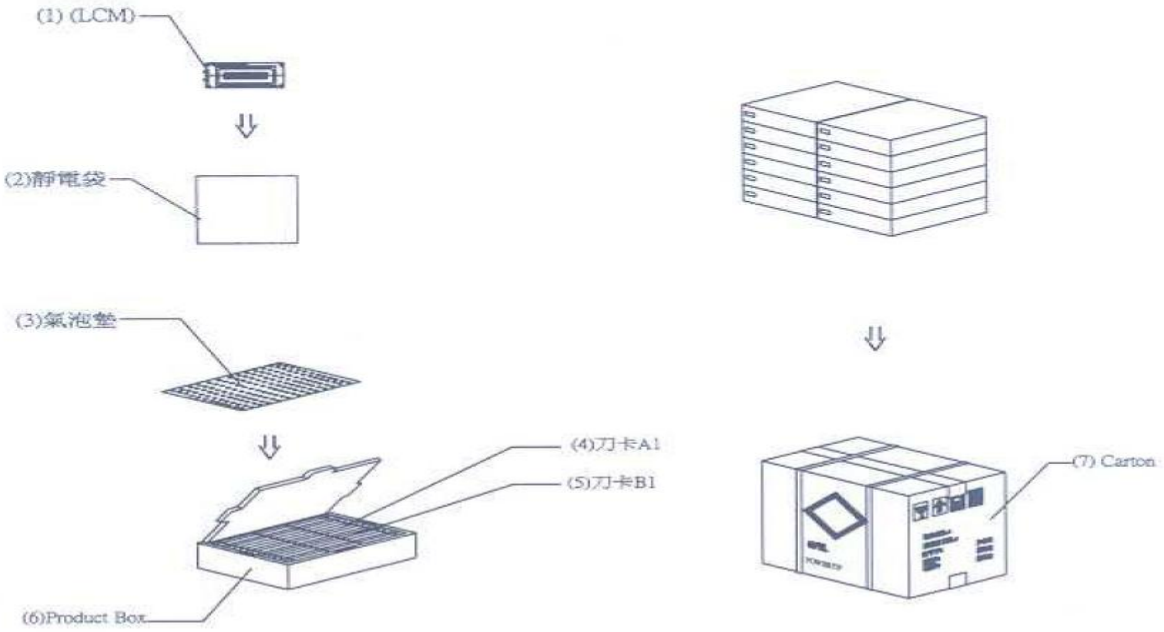
1.包裝材料規格表 (Packaging Material) : (per carton)

No.	Item	Model	Dimensions (mm)	Quantity
1	成品(1) LCM	PC1601LRS-EWA-H-Q	80.0*36.0*13.5	432
2	靜電袋 (2)BAG	BAG100100ARABA	100*100*0.05	432
3	氣泡墊(3)BAG	BAG290240BRBBA	240*290*5	24
4	刀卡A1(4)BX	BX29500047BZBA	295*47*3	168
5	刀卡B1(5)BX	BX24500047BZBA	245*47*4.5	48
6	C1內盒(6)Product Box	BX31025555AABA	310*255*55	12
7	外紙箱(7)Carton	BX52532536CCBA	525 *325 * 360	1
8				
9				

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

(1)LCM quantity per box : no. per box 12 x no. of box 3 = 36

(2)Total LCM quantity in carton : quantity per box 36 x no. of boxes 12 = 432



特 記 事 項 (REMARK)

1. Label Specifications :

MODEL:
LOT NO:
QUANTITY:
CHECK:

前中後各空一格

POWERTIP TECH. CORP.