

NAN YA PLASTICS CORPORATION

SPECIFICATION OF
LCD MODULE
PRODUCT NO.: LMCJ6H003K17CDPS

SPEC. NO.: LM003-17B-1

CUSTOMER
APPROVED BY
DATE:

LCD DEPARTMENT
ELECTRONIC MATERIALS DIVISION
NAN YA PLASTICS CORPORATION
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EDITED ON : Jan. 25. 2007

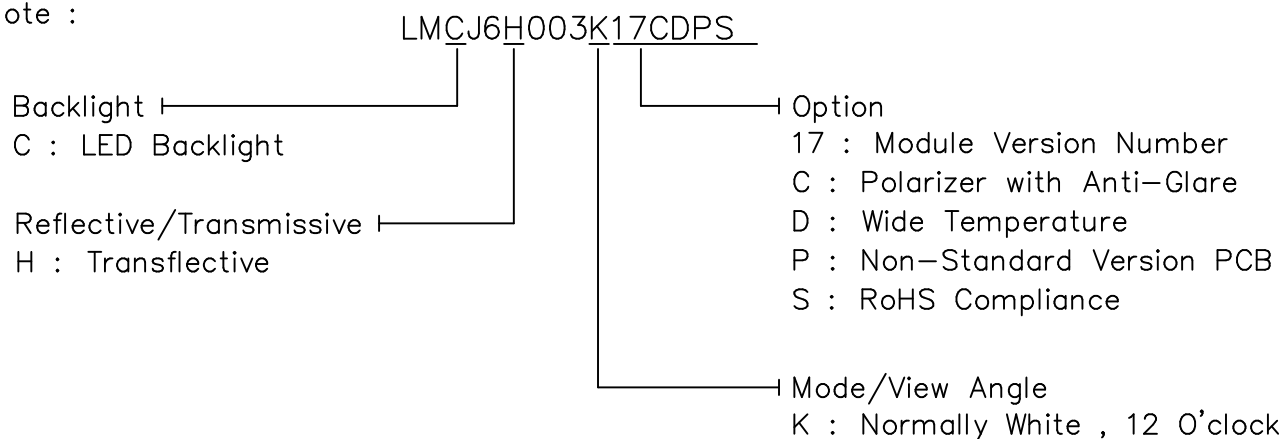
Q.C. DEPT.	DESIGN MANAGER	DESIGN CHECK	DESIGNER
			W.R. HSU

[illegible]

1.MECHANICAL DATA

NO	ITEM	CONTENTS	UNIT
1	Product No.	LMCJ6H003K17CDPS	—
2	Module Size	180.0 (W) x 65.0 (H) x MAX15.5 (D)	mm
3	Dot Size	0.49 (W) x 0.49 (H)	mm
4	Dot Pitch	0.53 (W) x 0.53 (H)	mm
5	Number of Dots	240 (W) x 64 (H)	Dot
6	Duty	1/64	—
7	LCD Display Mode	FSTN, Normally White / Positive Image	—
8	Rear Polarizer	Transflective Type	—
9	Viewing Direction	12	O'clock
10	Backlight	LED	—
11	Controller	T6963CFG-0101	—
12	DC/DC Converter	Excluded	—
13	Weight	203 (Approx.)	g

Note :



RoHS Compliance.

Nan Ya guarantees that this project doesn't include any materials (6 materials) or includes less than specified quantities which are regulated by RoHS Compliance.

REV/DATE	R0/ 11.23.05'	R1/ 01.25.07'				BY W.R.HSU
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2.ABSOLUTE MAXIMUM RATINGS

(1) ELECTRICAL ABSOLUTE RATINGS

VSS=0V

	SYMBOL	MIN.	MAX.	UNIT	COMMENT
Power Supply for Logic	VDD-VSS	-0.3	5.5	V	
Input Voltage	VI	-0.3	VDD	V	
Static Electricity	-	-	-	-	Note 1

Note 1 LCM should be grounded during handling LCM.

(2) ENVIRONMENTAL ABSOLUTE MAXIMUM RATINGS

ITEM	WIDE TEMP.			
	OPERATING		STORAGE	
	MIN.	MAX.	MIN.	MAX.
Ambient Temperature	-20	70	-40	80
Humidity (Without Condensation)	Note 2,4		Note 3,4	

Note 2 $T_a \leq 70^{\circ}\text{C}$: 75%RH max

Note 3 Please refer to item of reliability test

Note 4 Background color will change slightly depending on ambient temperature.
That phenomenon is reversible.

3. ELECTRICAL CHARACTERISTICS

3-1. ELECTRICAL CHARACTERISTICS OF LCM

ITEM	SYMBOL	CONDITION		MIN.	TYP.	MAX.	UNIT
Power Supply for Logic	VDD-VSS	—		4.5	5.0	5.5	V
Input Voltage	VIH	H level		0.8VDD	—	VDD	V
	VIL	L level		0	—	0.2VDD	
Recommended LC Driving Voltage	VDD-VEE (Vop)	Duty= 1/64	-20°C	11.7	12.1	12.5	V
			0°C	11.6	12.0	12.4	
			25°C	11.5	11.9	12.3	
			50°C	11.4	11.8	12.2	
			70°C	11.3	11.7	12.1	
Power Supply Current	IDD	VDD-VSS=5.0V VDD-VEE=11.9V Ta=25°C Pattern: □ ■ □ ■ □ ■ ■ □ ■ □ ■ □		—	15.0	25.0	mA
	IEE			—	2.0	4.0	
Surface Luminance of LCM	L	VAK=5V Pattern: Dots All ON		—	20	40	cd/m ²
		VAK=5V Pattern: Dots All OFF		30	50	—	

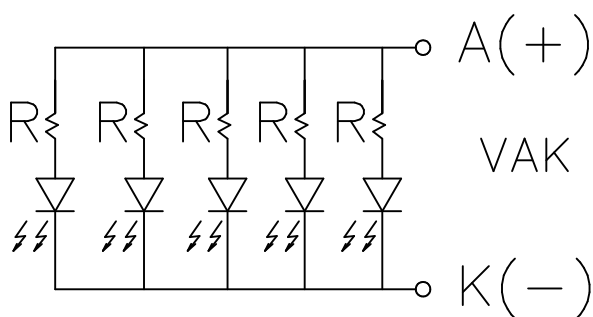
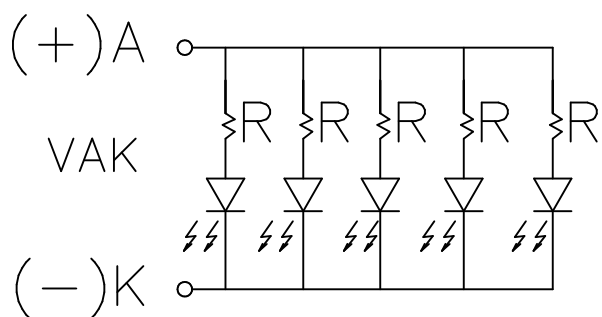
3-2.ELECTRICAL CHARACTERISTICS OF BACKLIGHT

Used LED Rating (Constant Voltage Driving)

Temp.=25°C

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT	REMARK
Peak forward current	I_P	—	—	250	mA	—
Maximum reverse voltage	V_R	—	—	5	V	—
Applied forward voltage	V_{AK}	—	5	—	V	—
Applied forward current	I_{AK}	—	200	250	mA	—
LED power consumption	P_F	—	1.0	1.25	W	—
LED life time	L_L	—	10000	—	hrs	at $V_{AK} = 5.0$ V (*1)

(*1) LED life time is defined as follows : The final brightness is at 50% of original brightness.



4.OPTICAL CHARACTERISTICS

WIDE TEMPERATURE MODE

AT V_{OP}

ITEM MODE	Cr(Contrast Ratio)										θ (Viewing Angle)		θ (Viewing Angle)	
	-20℃		0℃		25℃		50℃		70℃		25℃		25℃	
	MIN.	TYP.	MIN.	TYP.	MIN.	TYP.	MIN.	TYP.	MIN.	TYP.	MIN.	TYP.	MIN.	TYP.
H	K	2.0	3.0	3.0	4.0	3.5	5.0	2.0	3.0	1.5	2.0	—	F: 25 R: 30	— L: 25 R: 25
NOTE		NOTE 6										NOTE 5		

NOTE :

H : Transflective

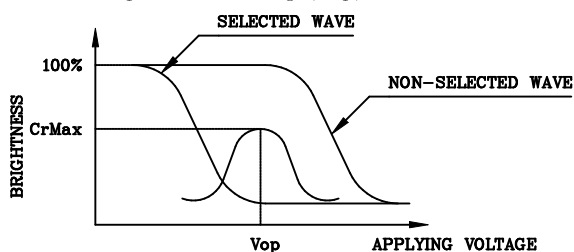
K : Normally White, 12 O'clock

AT $\phi=0^\circ$ $\theta=0^\circ$

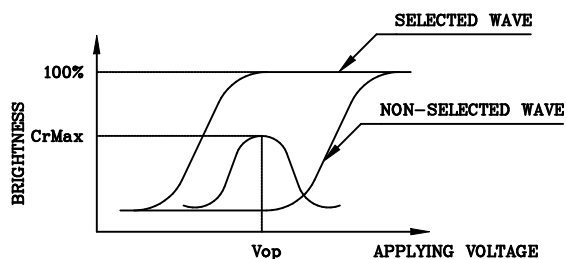
ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT	NOTE
Response Time (rise)	Tr	-20℃	2500	3200	4800	ms	NOTE 2
		0℃	500	620	930		
		25℃	160	200	300		
		50℃	70	90	140		
		70℃	60	70	100		
Response Time (fall)	Tf	-20℃	1600	2000	3000	ms	NOTE 2
		0℃	350	430	650		
		25℃	80	150	230		
		50℃	50	60	90		
		70℃	40	50	70		

(NOTE 1)

Definition of Operation Voltage(Vop)



(positive type)



(negative type)

*Conditions

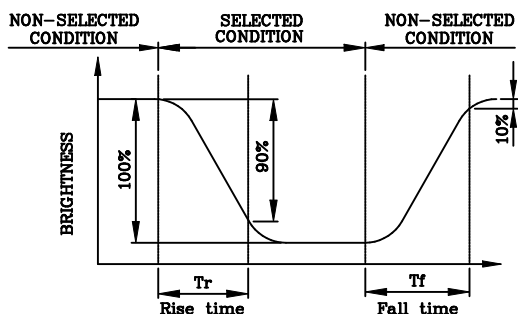
Viewing Angle : 0

Frame Frequency : 70Hz

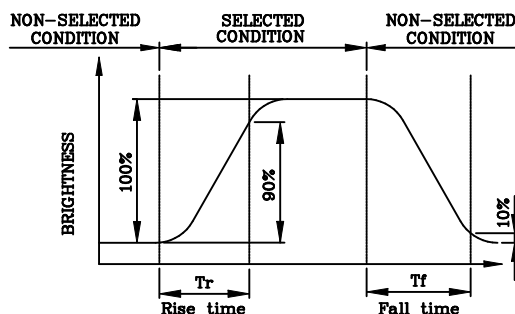
Applying Waveform : 1/N duty 1/a bias

(NOTE 2)

Definition of Response Time(Tr,Tf)



(positive type)



(negative type)

*Conditions

Operating Voltage : V_{op}

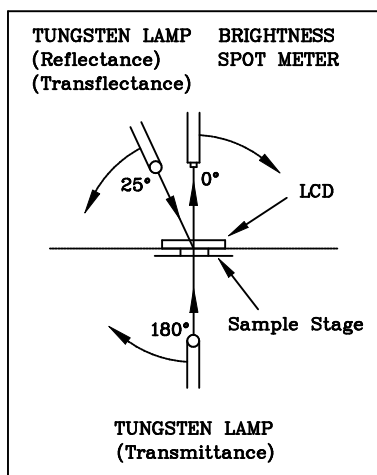
Viewing Angle (θ, ϕ) : (0,0)

Frame Frequency : 70Hz

Applying Waveform : 1/N duty 1/a bias

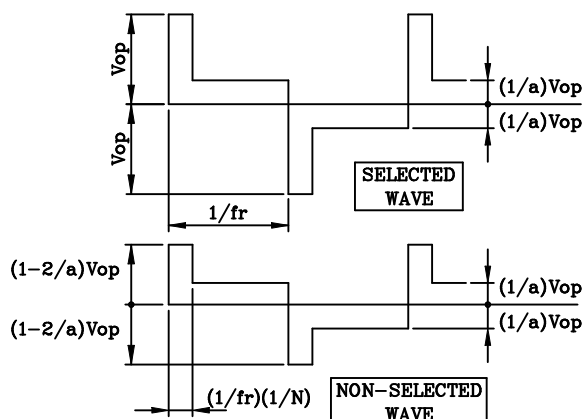
(NOTE 3)

Description of Measuring Equipment and Driving Waveforms



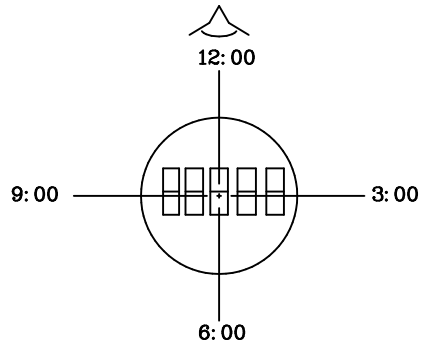
CONST.
TEMP.
CHAMBER

Multiplex Driving (1/N duty 1/a bias)



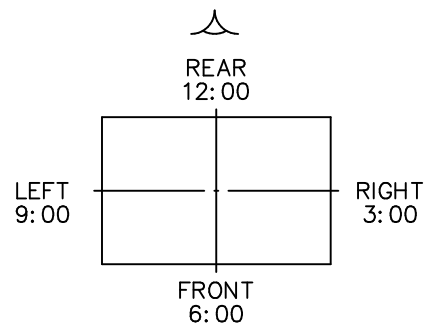
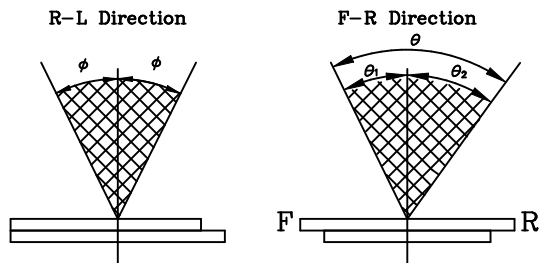
(NOTE 4)

Definition of Viewing Direction



(NOTE 5)

Definition of Viewing Angle



*For This Product

The Viewing Direction Is 12 O'clock
So $\theta_1 < \theta_2$

$$\theta = \theta_1 + \theta_2$$

*Conditions

Operating Voltage : Vop

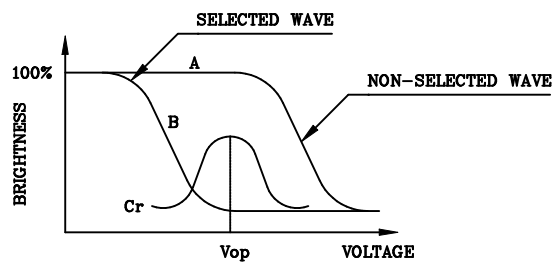
Frame Frequency : 70Hz

Applying Waveform : 1/N duty 1/a bias

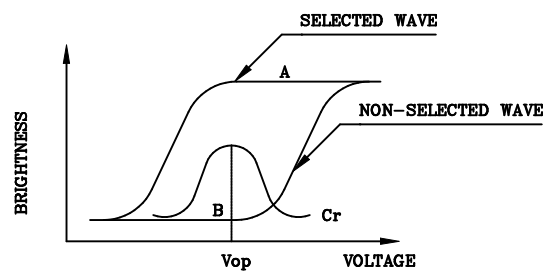
Contrast Ratio : larger than 2

(NOTE 6)

Definition of Contrast Ratio (Cr)



(positive type)



(negative type)

$$\text{Contrast Ratio : } Cr = A/B$$

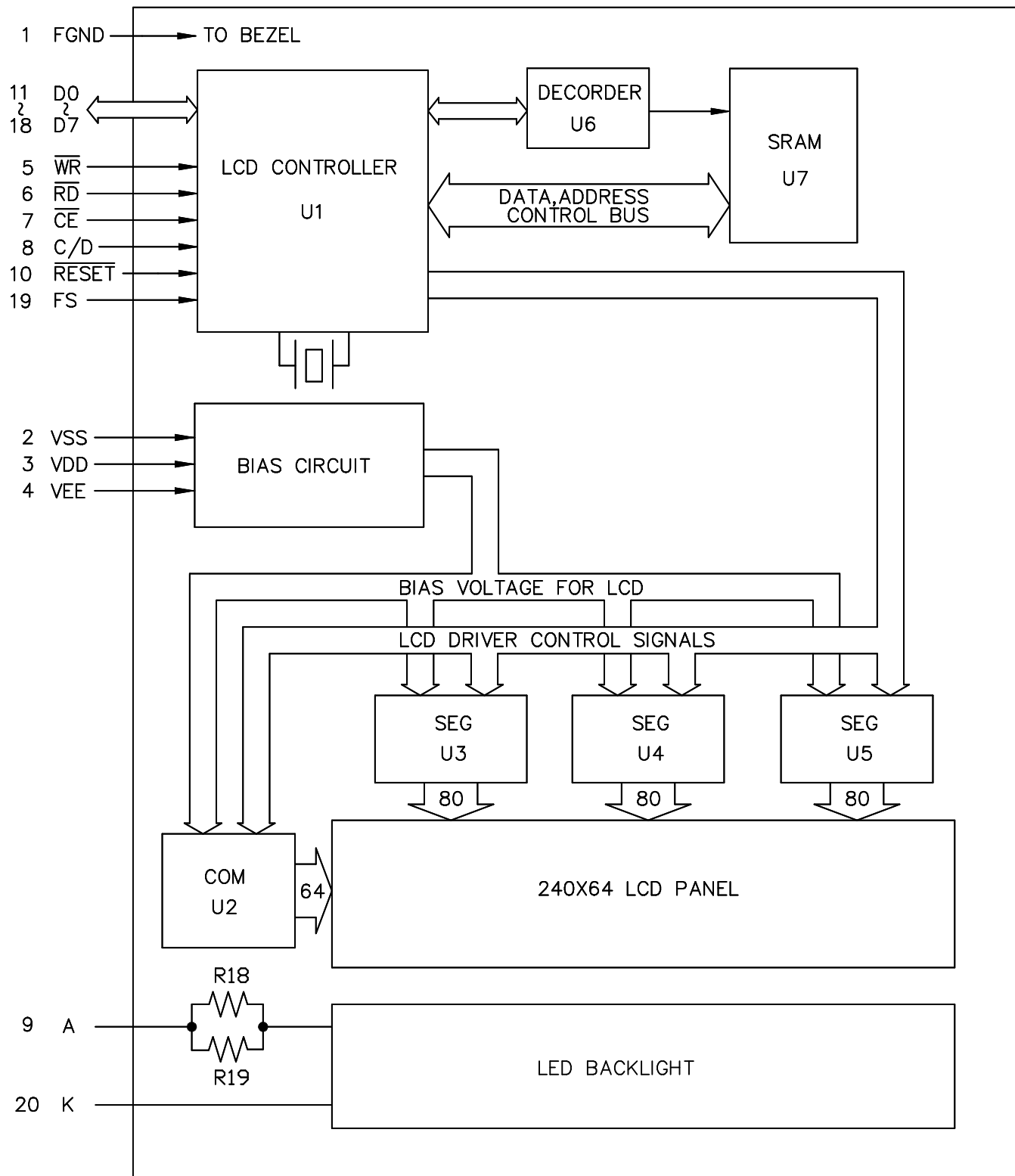
*Conditions

Viewing Angle : 0

Frame Frequency : 70Hz

Applying Waveform : 1/N duty 1/a bias

5. BLOCK DIAGRAM

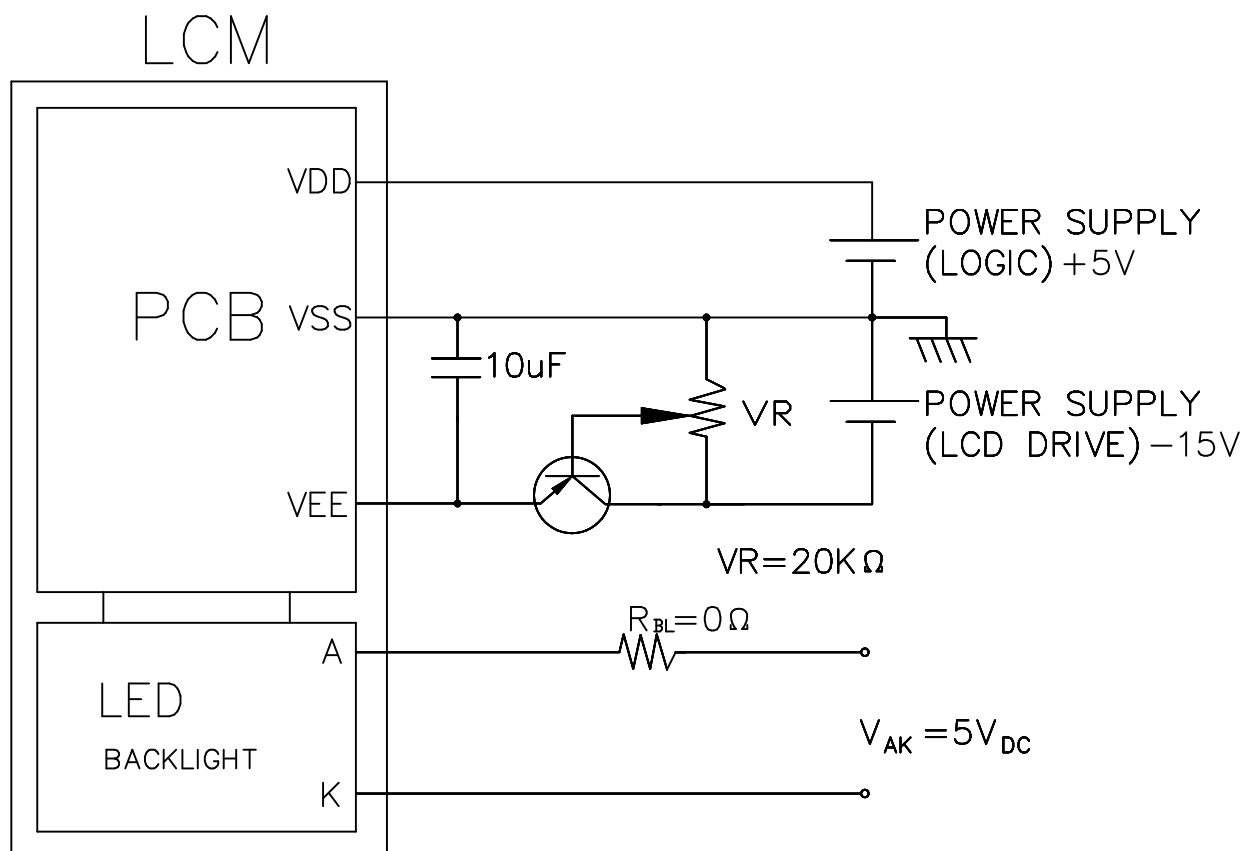


NOTE: R18,R19=0 Ω

6.INTERNAL PIN CONNECTION

PIN NO.	SYMBOL	FUNCTION
1	FGND	FRAME GROUND (0V)
2	VSS	GROUND
3	VDD	POWER SUPPLY FOR LOGIC (+5V)
4	VEE	POWER SUPPLY FOR LC DRIVING
5	$\overline{WR}$	DATA WRITE
6	$\overline{RD}$	DATA READ
7	$\overline{CE}$	CHIP ENABLE
8	C/D	$\overline{WR}$ ="L",C/D="H" :COMMAND WRITE $\overline{WR}$ ="L",C/D="L" :DATA WRITE $\overline{RD}$ ="L",C/D="H" :STATUS READ $\overline{RD}$ ="L".C/D="L" :DATA READ
9	A	Anode of LED B/L
10	$\overline{RESET}$	CONTROLLER RESET
11	D0	DATA INPUT/OUTPUT
12	D1	DATA INPUT/OUTPUT
13	D2	DATA INPUT/OUTPUT
14	D3	DATA INPUT/OUTPUT
15	D4	DATA INPUT/OUTPUT
16	D5	DATA INPUT/OUTPUT
17	D6	DATA INPUT/OUTPUT
18	D7	DATA INPUT/OUTPUT
19	FS	FONT SELECT CONNECT TO VDD : 6X8 PIXELS/CHARACTER CONNECT TO GND : 8X8 PIXELS/CHARACTER
20	K	Cathode of LED B/L

7. POWER SUPPLY



8. TIMING CHARACTERISTICS

8-1. INTERFACE TIMING

ITEM	ITEM	CONDITION	MIN.	MAX.	UNIT
C/D SET UP TIME	t_{CDS}	Fig.	100	—	ns
C/D HOLD TIME	t_{CDH}	Fig.	10	—	ns
$\overline{CE}, \overline{RD}, \overline{WR}$ CLOCK WIDTH	t_{CP}, t_{RP}, t_{WP}	Fig.	80	—	ns
DATA SET UP TIME	t_{DS}	Fig.	80	—	ns
DATA HOLD TIME	t_{DH}	Fig.	40	—	ns
ACCESS TIME	t_{ACC}	Fig.	—	150	ns
DATA OUTPUT HOLD TIME	t_{OH}	Fig.	10	50	ns

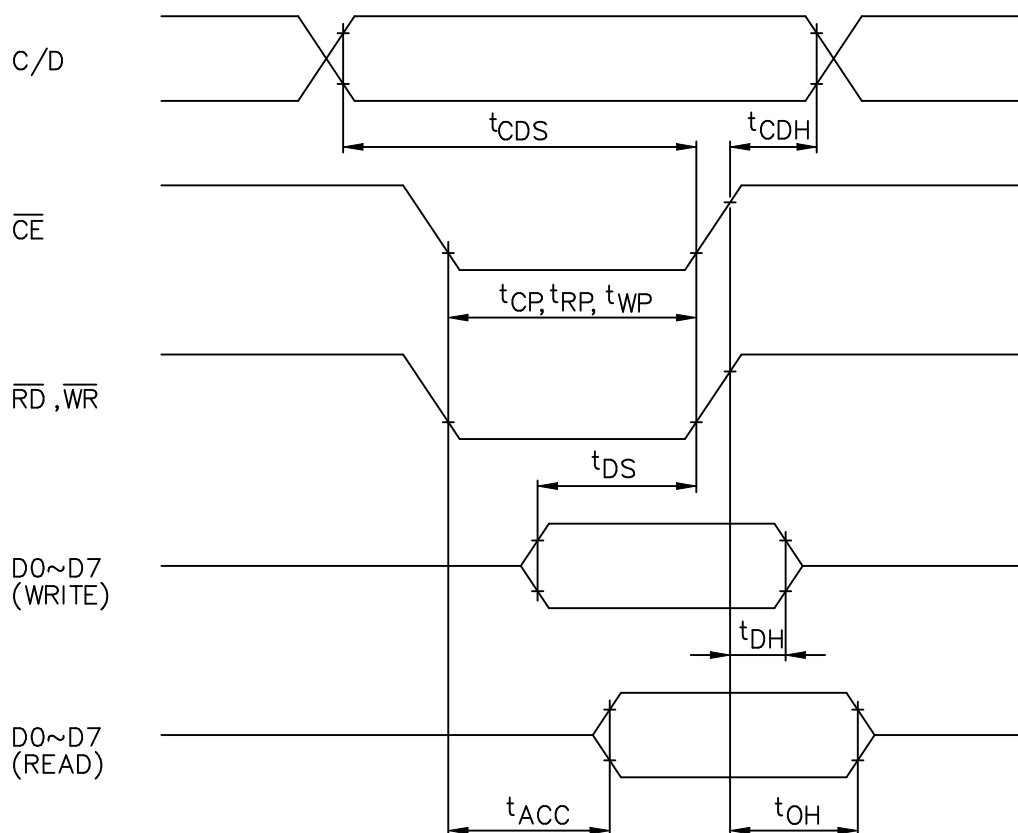
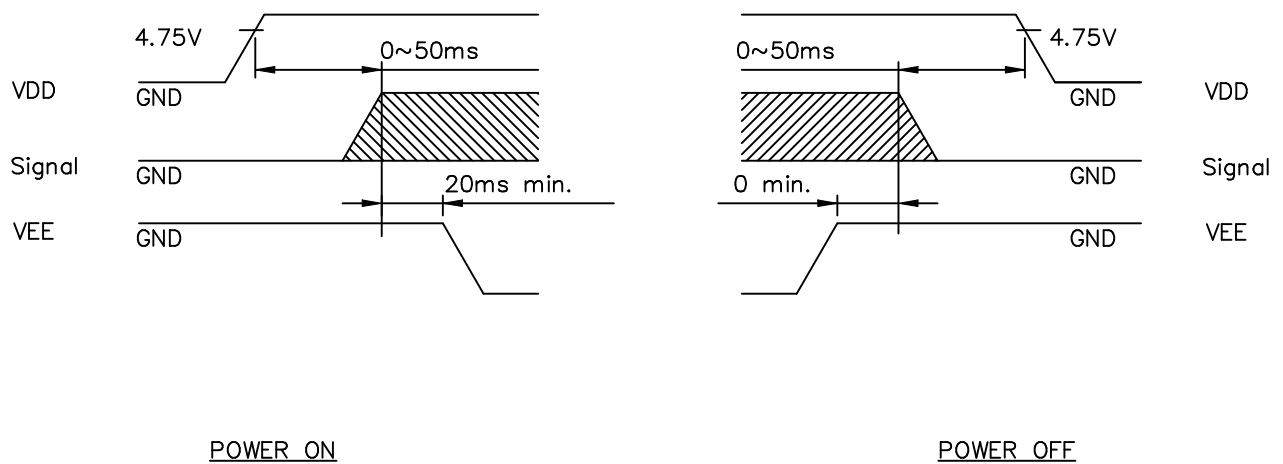


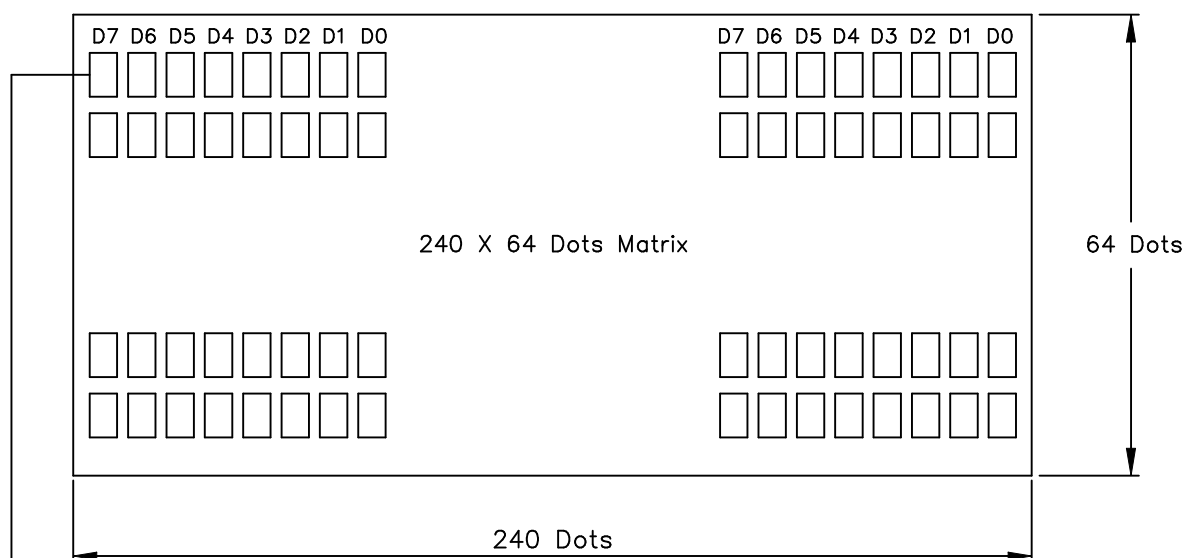
Fig. INTERFACE TIMING CHART

8-2. POWER ON/OFF TIMING



The missing pixels may occur when the LCM is driven beyond above power interface timing sequence.

8-3.DISPLAY PATTERN



→ Starting dot for the starting address of display RAM D0~D7
are 8 bits transmitted data ,where D0 is LSB and D7 is MSB.

9. RELIABILITY TEST

WIDE TEMPERATURE RELIABILITY TEST

NO	ITEM	CONDITION			STANDARD	NOTE
1	High Temp. Storage	80°C	120Hrs		Appearance without defect	
2	Low Temp. Storage	-40°C	120Hrs		Appearance without defect	
3	High Temp. & High Humi. Storage	60°C 90%RH	120Hrs		Appearance without defect	
4	High Temp. Operating Display	70°C	120Hrs		Appearance without defect	
5	Low Temp. Operating Display	-20°C	120Hrs		Appearance without defect	
6	Thermal Shock	-20°C, 30min → 70°C, 30min ↑—————↓ (1cycle)			Appearance without defect	10 cycles

Inspection Provision

1. Purpose

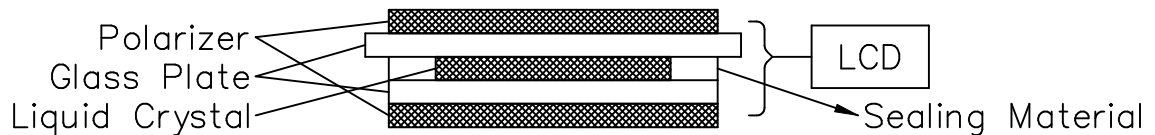
The NAN YA inspection provision provides outgoing inspection provision and its expected quality level based on our outgoing inspection of NAN YA LCD produces.

2. Applicable Scope

The NAN YA inspection provision is applicable to the arrangement in regard to outgoing inspection and quality assurance after outgoing.

3. Technical Terms

3-1 NAN YA Technical Terms



4. Outgoing Inspection

4-1 Inspection Method

MIL-STD-105E Level II Regular inspection

4-2 Inspection Standard

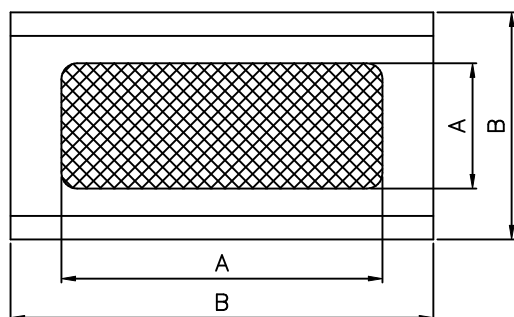
	Item		AQL(%)	Remarks
Major Defect	Dots	Opens Shorts Erroneous operation	0.4	faults which substantially lower the practicality and the initial purpose difficult to achieve.
	Solder appearance	Shorts Loose		
	Cracks	Display surface cracks		

	Dimensions	External from Dimensions	0.4	
Minor Defect	Inside the glass	Black spots	0.65	faults which appear to pose almost no obstacle to the practicality, effective use, and operation.
	Polarizing plate	Scratches, foreign Matter, air bubbles, and peeling		
	Dots	Pinhole, deformation		
	Color tone	Color unevenness		
	Solder appearance	Cold solder Solder projections		

4-3 Inspection Provisions

*Viewing Area Definition

Fig. 1



A : Zone Viewing Area
B : Zone Glass Plate Outline

*Inspection place to be 500 to 1000 lux illuminance uniformly without glaring.

The distance between luminous source(daylight fluorescent lamp and cool white fluorescent lamp) and sample to be 30cm to 50cm.

*Test and measurement are performed under the following conditions, unless otherwise specified.

Temperature 20± 15℃
Humidity 65± 20%R.H.
Pressure 860~1060hPa(mmbar)

In case of doubtful judgment, it is performed under the following conditions.

Temperature 20± 2℃
Humidity 65± 5%R.H.
Pressure 860~1060hPa(mmbar)

5.Specification for quality check
5-1 Electrical characteristics

NO.	Item	Criterion
1	Non operational	Fail
2	Miss operating	Fail
3	Missing dot	Fail
4	Contrast irregular	Fail
5	Response time	Within Specified value
6	Backlight turn on/off	Within Specified value

5-2 External Appearance Defect

NO.	Item	Criterion																		
1	Black spots, foreign matter, and white spots (Including light leakage due to pinholes of polarizing plates, etc.)	(1)–1–Spots <table><tr><th>Average Diameter(mm):D</th><th>Number of pieces permitted</th></tr><tr><td>$D\leq0.1$</td><td>Ignore</td></tr><tr><td>$0.1<D\leq0.2$</td><td>5</td></tr><tr><td>$0.2<D\leq0.3$</td><td>2</td></tr><tr><td>$0.3<D$</td><td>0</td></tr></table> Number of total pieces is set to within 5 pieces. Note that when there are 2 pieces or more, they are not to be concentrated. Set as: Average diameter = (Long diameter + Short diameter)/2 (1)–2–Blurred Spots(At lighting condition) <table><tr><th>Average Diameter(mm):D</th><th>Number of pieces permitted</th></tr><tr><td>$D\leq0.3$</td><td>Ignore</td></tr><tr><td>$0.3<D\leq0.75$</td><td>5</td></tr><tr><td>$0.75<D$</td><td>0</td></tr></table> Number of total pieces is set to within 5 pieces. Note that when there are 2 pieces or more, they are not to be concentrated. Set as: Average diameter = (Long diameter + Short diameter)/2	Average Diameter(mm):D	Number of pieces permitted	$D\leq0.1$	Ignore	$0.1<D\leq0.2$	5	$0.2<D\leq0.3$	2	$0.3<D$	0	Average Diameter(mm):D	Number of pieces permitted	$D\leq0.3$	Ignore	$0.3<D\leq0.75$	5	$0.75<D$	0
Average Diameter(mm):D	Number of pieces permitted																			
$D\leq0.1$	Ignore																			
$0.1<D\leq0.2$	5																			
$0.2<D\leq0.3$	2																			
$0.3<D$	0																			
Average Diameter(mm):D	Number of pieces permitted																			
$D\leq0.3$	Ignore																			
$0.3<D\leq0.75$	5																			
$0.75<D$	0																			

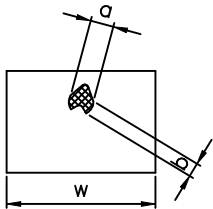
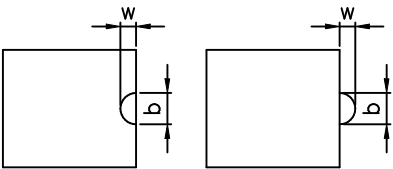
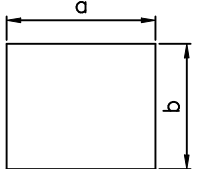
SPECIFICATION

1	Line	(1)-1-Lines <table> <tr> <th>Width(mm): W</th><th>Length(mm): L</th><th>Number of pieces permitted</th></tr> <tr> <td>$W \leq 0.03$</td><td>Ignore</td><td>Ignore</td></tr> <tr> <td>$0.03 < W \leq 0.08$</td><td>$L \leq 4$</td><td>2</td></tr> <tr> <td>$0.08 < W \leq 0.1$</td><td>$L \leq 1$</td><td>1</td></tr> </table> Object exceeding 0.1mm follow the standards of the spots form. Note that when there are 2 pieces or more, they are not to be concentrated. (1)-2-Blurred Lines(At lighting condition) <table> <tr> <th>Width(mm): W</th><th>Length(mm): L</th><th>Number of pieces permitted</th></tr> <tr> <td>$W \leq 0.03$</td><td>Ignore</td><td>Ignore</td></tr> <tr> <td>$0.03 < W \leq 0.08$</td><td>$L \leq 3$</td><td>6</td></tr> <tr> <td>$0.08 < W$</td><td>$3 < L$</td><td>None</td></tr> </table> Object exceeding 0.1mm follow the standards of the spots form. Note that when there are 2 pieces or more, they are not to be concentrated.	Width(mm): W	Length(mm): L	Number of pieces permitted	$W \leq 0.03$	Ignore	Ignore	$0.03 < W \leq 0.08$	$L \leq 4$	2	$0.08 < W \leq 0.1$	$L \leq 1$	1	Width(mm): W	Length(mm): L	Number of pieces permitted	$W \leq 0.03$	Ignore	Ignore	$0.03 < W \leq 0.08$	$L \leq 3$	6	$0.08 < W$	$3 < L$	None
Width(mm): W	Length(mm): L	Number of pieces permitted																								
$W \leq 0.03$	Ignore	Ignore																								
$0.03 < W \leq 0.08$	$L \leq 4$	2																								
$0.08 < W \leq 0.1$	$L \leq 1$	1																								
Width(mm): W	Length(mm): L	Number of pieces permitted																								
$W \leq 0.03$	Ignore	Ignore																								
$0.03 < W \leq 0.08$	$L \leq 3$	6																								
$0.08 < W$	$3 < L$	None																								
2	Scratches(Glass, reflection plates, and polarizing plates)	In accordance with black spots. (At non lighting condition)																								
3	Color irregular	Not remarkable color irregular.																								

4	Air bubbles polarizing plates, and reflection plates	<table><tr><td>Average Diameter (mm): D</td><td>Number of pieces permitted</td><td rowspan="2">Average diameter = (Long diameter + Short diameter)/2</td></tr><tr><td>$D \leq 0.3$ $0.3 < D$</td><td>Ignore 0</td></tr></table> Note that when there are 4 pieces or more, they are not to be concentrated.	Average Diameter (mm): D	Number of pieces permitted	Average diameter = (Long diameter + Short diameter)/2	$D \leq 0.3$ $0.3 < D$	Ignore 0					
Average Diameter (mm): D	Number of pieces permitted	Average diameter = (Long diameter + Short diameter)/2										
$D \leq 0.3$ $0.3 < D$	Ignore 0											
5	Cracks	<table><tr><td>(1)General crack</td><td>$a \leq 5$ $b \leq 2$ $c \leq t$ Where, a and b are ignored when less than or equal to 0.5 The numbers of pieces are set at up to 5 pieces.</td></tr><tr><td>(2)Corner crack</td><td>$a \leq 2.5$ $b \leq 2.5$ $c \leq t$ $a + b \leq 4$</td></tr><tr><td>(3)Seal portion crack</td><td>$a \leq \text{The seal width} \times 1/3$ $b \leq t \times 2/3$ $c \leq 5$ The numbers of pieces are set at up to 5 pieces.</td></tr><tr><td>(4)ITO Pin crack</td><td>$a \leq 5$ $b \leq 1/3 \text{ pin length}$ $c \leq t$</td></tr><tr><td>(5)Progressive cracks</td><td>All taken to be unacceptable.</td></tr></table>	(1)General crack	$a \leq 5$ $b \leq 2$ $c \leq t$ Where, a and b are ignored when less than or equal to 0.5 The numbers of pieces are set at up to 5 pieces.	(2)Corner crack	$a \leq 2.5$ $b \leq 2.5$ $c \leq t$ $a + b \leq 4$	(3)Seal portion crack	$a \leq \text{The seal width} \times 1/3$ $b \leq t \times 2/3$ $c \leq 5$ The numbers of pieces are set at up to 5 pieces.	(4)ITO Pin crack	$a \leq 5$ $b \leq 1/3 \text{ pin length}$ $c \leq t$	(5)Progressive cracks	All taken to be unacceptable.
(1)General crack	$a \leq 5$ $b \leq 2$ $c \leq t$ Where, a and b are ignored when less than or equal to 0.5 The numbers of pieces are set at up to 5 pieces.											
(2)Corner crack	$a \leq 2.5$ $b \leq 2.5$ $c \leq t$ $a + b \leq 4$											
(3)Seal portion crack	$a \leq \text{The seal width} \times 1/3$ $b \leq t \times 2/3$ $c \leq 5$ The numbers of pieces are set at up to 5 pieces.											
(4)ITO Pin crack	$a \leq 5$ $b \leq 1/3 \text{ pin length}$ $c \leq t$											
(5)Progressive cracks	All taken to be unacceptable.											

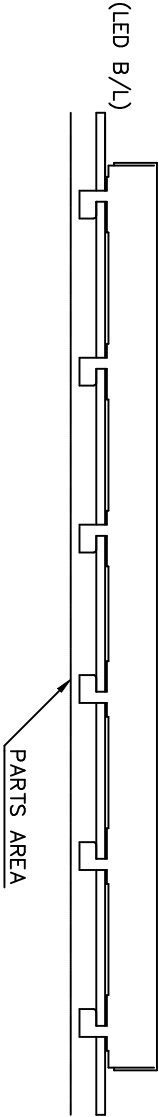
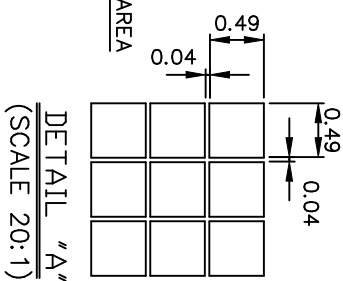
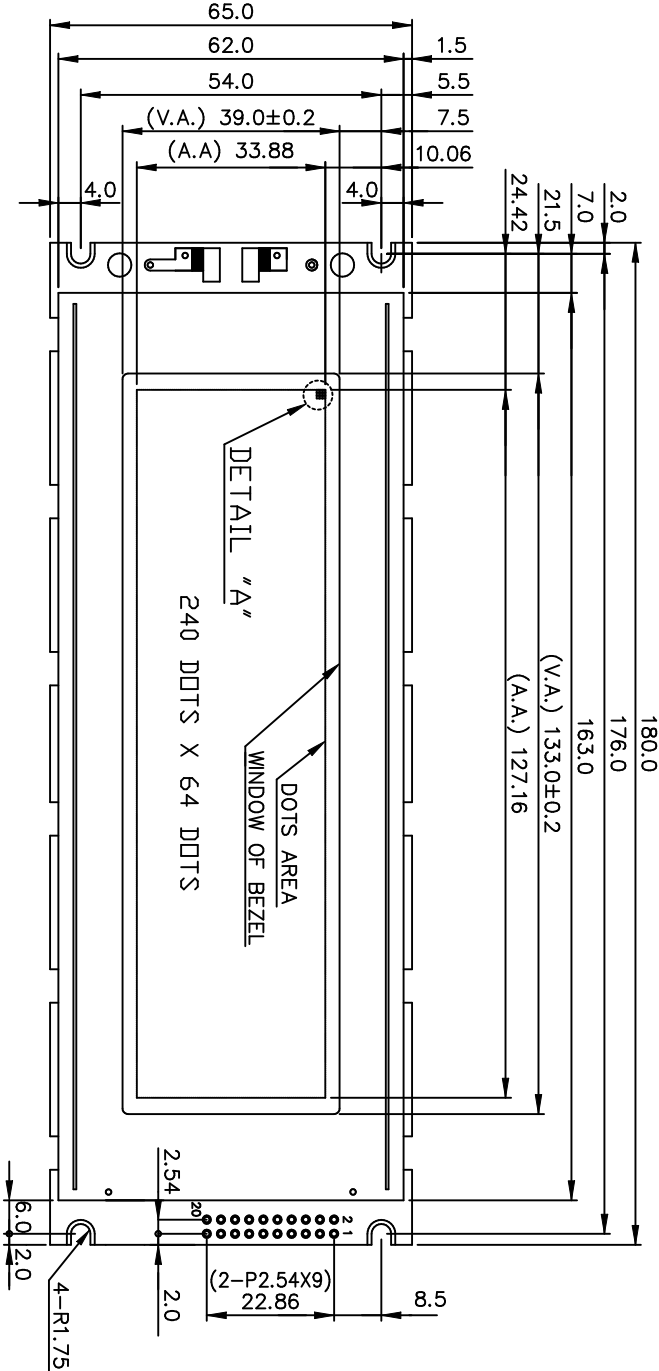
6	Outer dimensions	Should be within the tolerance.
7	Newton ring(touch panel)	Orbicular of interference fringes is not allowed in the optimum contrast within the active area under viewing angle.
8	Soldering	Should be no defective soldering such as shorting, loose terminal cold solder, peeling of printed circuit board pattern, improper mounting position, etc.

5-3 Dot Appearance Defect

NO.	Item	Criteria
1	Pinhole	 Dot display a and b are each $\leq 0.2\text{mm}$ The overall total is taken be with in 10 units. Note that they are not to be concentrated.
2	Missing	 Dot display a and b are each $\leq 0.2\text{mm}$ The overall total is taken to be with in 10 units.
3	Thick and thin display	 Taken to be within $\pm 1.5\%$ of display character width(a) and height(b).

NAN YA PLASTICS CORP. ELEC. MATERIALS DIV. LCD DEPARTMENT	SPECIFICATION	SPEC. NO. : LM003-17B DATE : Nov. 23. 2005 SHEET NO. : 22/23
NOTICE: • SAFETY 1.If the LCD panel breaks, be careful not to get the liquid crystal to touch your skin. 2.If the liquid crystal touches your skin or clothes, please wash it off immediately by using soap and water. • HANDLING 1.Avoid static electricity which can damage the CMOS LSI. 2.Do not remove the panel or frame from the module. 3.The polarizing plate of the display is very fragile. So, please handle it very carefully. 4.Do not wipe the polarizing plate with a dry cloth, as it may easily scratch the surface of plate. 5.Do not use ketonics solvent & Aromatic solvent. Use a soft cloth soaked with a cleaning naphtha solvent. • STORAGE 1.Store the panel or module in a dark place where the temperature is 25°C±5°C and the humidity is below 65% RH. 2.Do not place the module near organics solvents or corrosive gases. 3.Do not crush, shake, or jolt the module. • TERMS OF WARRANT 1.Acceptance inspection period The period is within one month after the arrival of contracted commodity at the buyer's factory site. 2.Applicable warrant period The period is within twelve months since the date of shipping out under normal using and storage conditions.		
REV/DATE	R0/ 11.23.05'	BY W.R.HSU

VIEW DIRECTION



PIN NO	SYMBOL	FUNCTION	PIN NO	SYMBOL	FUNCTION
1	FGND	FRAME GROUND (0V)	11	D0	DATA INPUT/OUTPUT, LSB
2	VSS	GROUND	12	D1	DATA INPUT/OUTPUT
3	VDD	POWER SUPPLY FOR LOGIC (+5V)	13	D2	DATA INPUT/OUTPUT
4	VEE	POWER SUPPLY FOR LC DRIVING	14	D3	DATA INPUT/OUTPUT
5	WR	DATA WRITE	15	D4	DATA INPUT/OUTPUT
6	RD	DATA READ	16	D5	DATA INPUT/OUTPUT
7	CE	CHIP ENABLE	17	D6	DATA INPUT/OUTPUT
8	C/D	WR=L: C/D=H: COMMAND WRITE WR=L: C/D=L: DATA WRITE RD=L: C/D=H: STATUS READ RD=L: C/D=L: DATA READ	18	D7	DATA INPUT/OUTPUT, MSB
9	A	ANODE OF LED B/L	19	FS	FONT SELECT CONNECT TO VDD : 6X8 PIXELS/CHARACTER CONNECT TO Vss : 8X8 PIXELS/CHARACTER
10	RESET	CONTROLLER RESET	20	K	CATHODE OF LED B/L

TOLERANCE LIST(S)

DIMENSION	TOLERANCE
L ≤ 6	±0.25
6 < L ≤ 18	±0.3
18 < L ≤ 50	±0.4
50 < L ≤ 125	±0.5
125 < L	±0.6

REV. NO.	DESCRIPTION	DATE	DESIGN CHECK	APPROVE
△	Deleted Controller IC NO. of The Notes	96.01.25	CLOUDE	

- △ NOTES :
1. RESOLUTION : 240 x 64 DOTS
 2. BACKLIGHT : LED (WHITE)
 3. FRAME MATERIAL : SPCC (0.5 mm)
BLACK

南亞塑膠工業股份有限公司
NAN YA PLASTICS CORPORATION

製品圖

LMCJ6H003K17CDPS

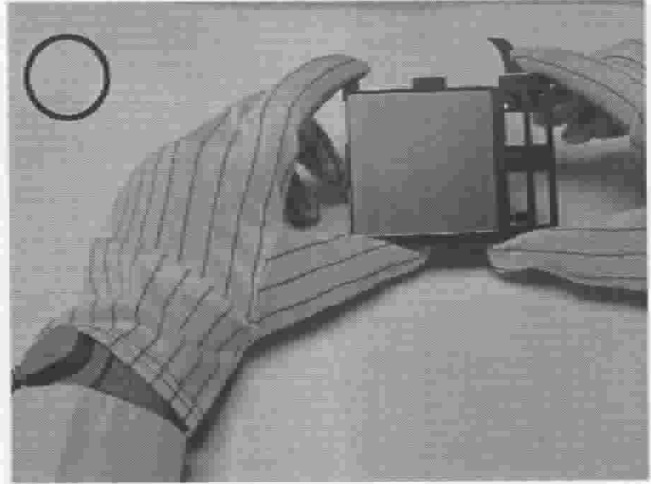
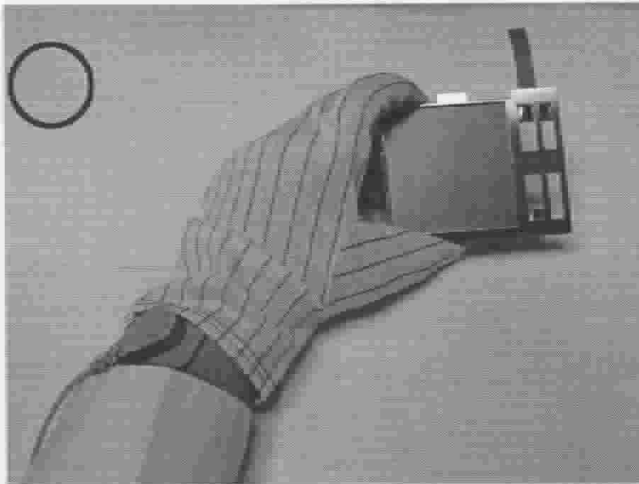
APPROVE	NAME	DATE	THIRD ANGLE P.
CHECK	Tony Chpu	94.11.17	Y.C. Liu
DESIGN	CLOUDE	94.11.11	SCALE
DRAWN	CLOUDE	94.11.11	UNIT
DWG NO.	M003ED17A	1/1	mm

THE NOTES OF LCM USING

LCM is easy to damage.

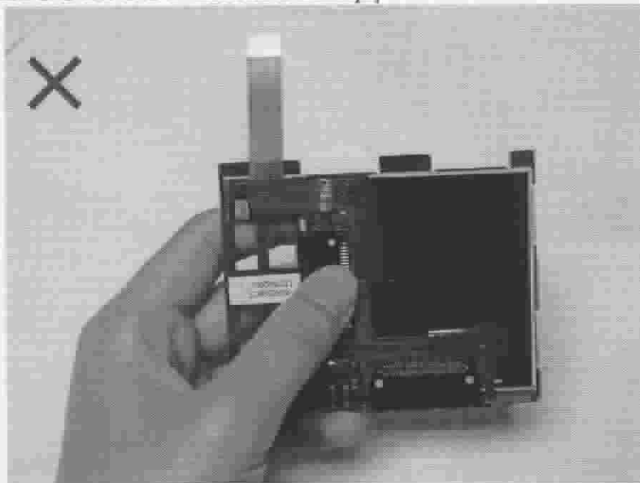
Please follow the notes as bellows, and be careful of handling!

Correct handling

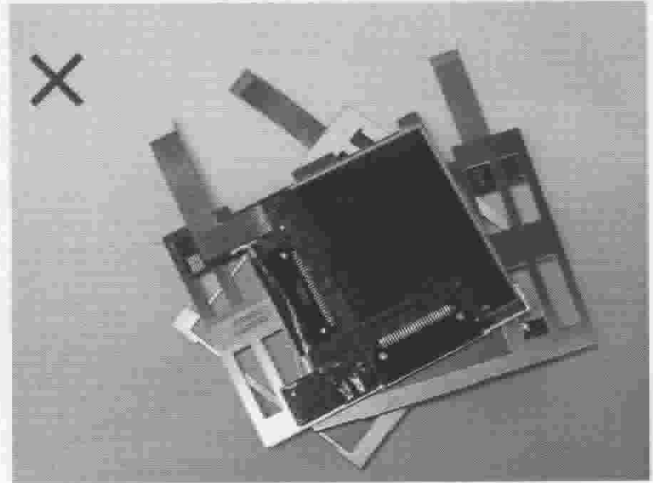


As above picture, please handle with glove by LCM edges and full EOS/ESD protection.

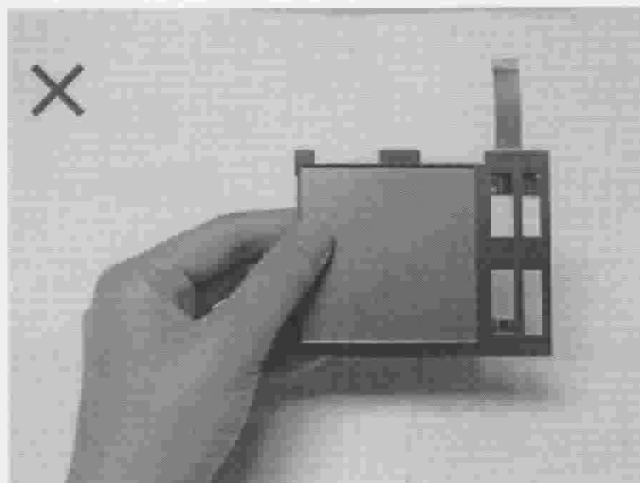
Incorrect handling



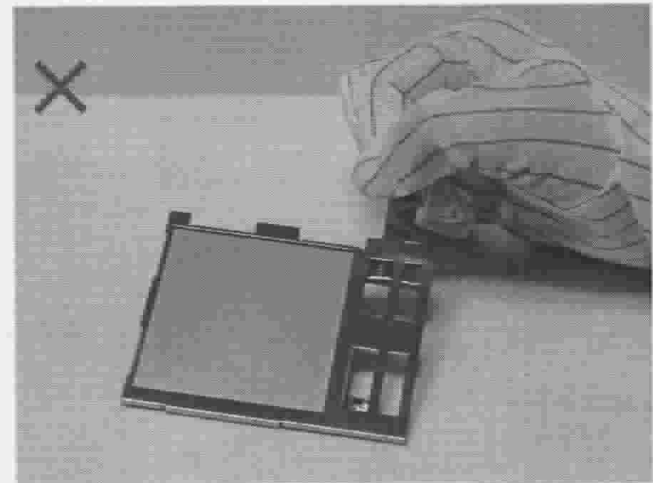
Please don't touch IC directly.



Please don't put one on another LCM.



Please don't hold the surface of LCM.



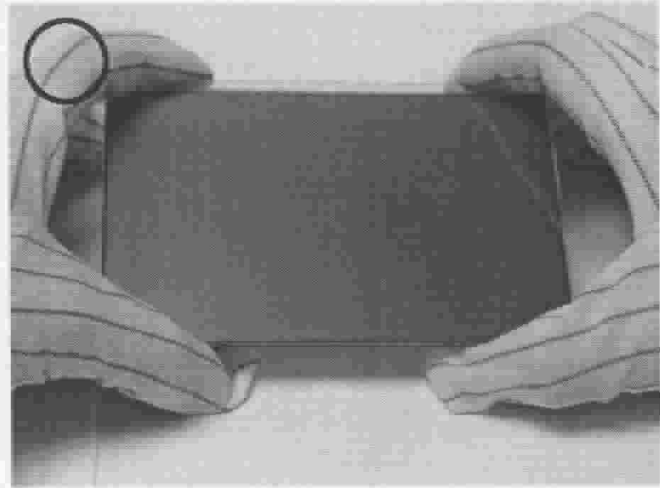
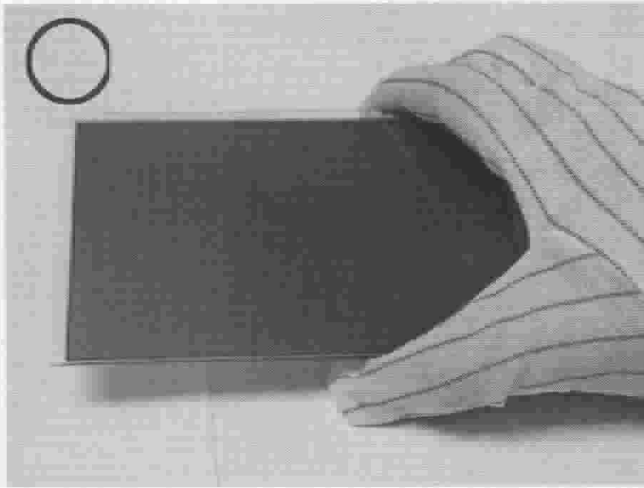
Please don't stretch interface of output.

THE NOTES OF LCD USING

LCD is easy damage.

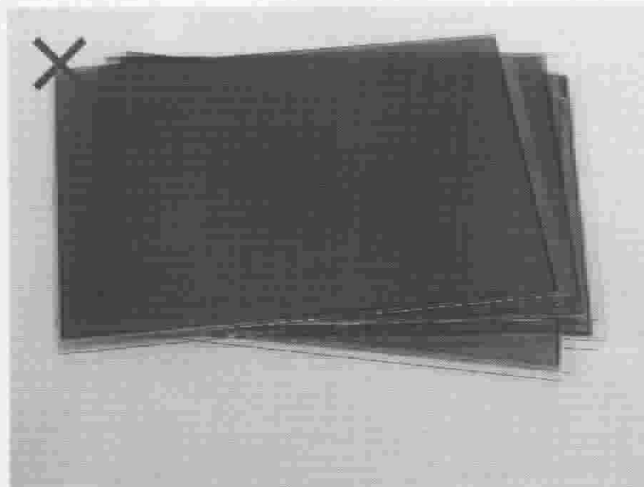
Please follow notes as bellows, and be careful of handling!

Correct handling

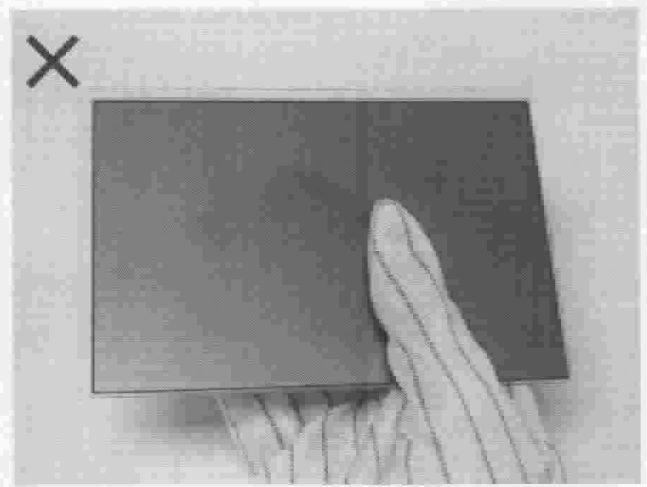


As above picture, please handle with glove by LCD edges and full EOS/ESD protection.

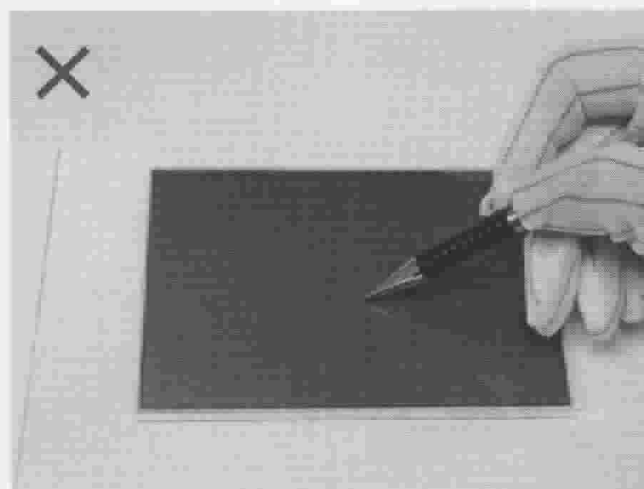
Incorrect handling



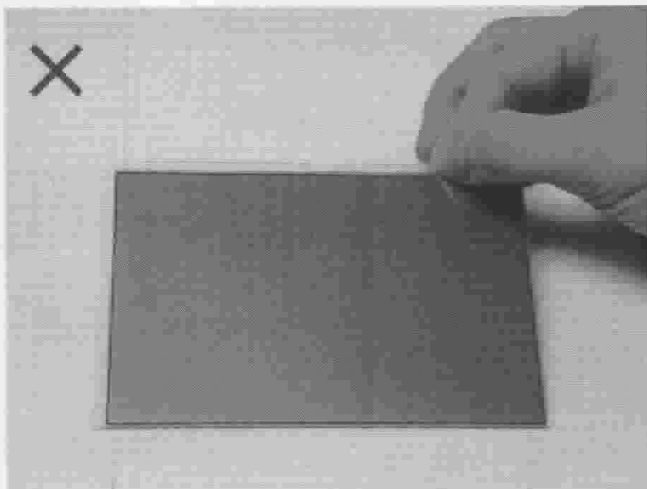
Please don't put one on another LCD.



Please don't hold the surface of LCD.



Please don't operate with sharp stick such as sharp pencil.



Please don't touch ITO glass without anti-static gloves.

