



Specification for Approval

Customer: _____

Model Name: _____

Supplier Approval			Customer approval
R&D Designed	R&D Approved	QC Approved	
<i>Peter</i>	<i>Peng Jun</i>		

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1. Scope

This specification defines general provisions as well as inspection standards for TFT module supplied by AMSON electronics.

If the event of unforeseen problem or unspecified items may occur, naturally shall negotiate and agree to solution.

2. General Information

ITEM	STANDARD VALUES	UNITS
LCD type	1.54" TFT	--
Dot arrangement	240(RGB)×240	dots
Color filter array	RGB vertical stripe	--
Display mode	IPS/ Transmission / Normally BALCK	-
Gray Scale Inversion Direction	80/80/80/80	--
Eyes Viewing Direction	ALL	
Driver IC	GC9307	--
Module size	31.52(W)×33.72(H)×1.73(T)	mm
Active area	27.72(W)×27.72(H)	mm
Interface	SPI interface	--
Operating temperature	-20 ~ +70	°C
Storage temperature	-30 ~ +80	°C
Back Light	3 White LED	--

3. External Dimensions

CONTACT SIDE

STIFFENER

展开出货

BACKLIGHT CIRCUIT DIAGRAM

VF=3.0V; IF=60mA

P	SYMBOL
1	LED+
2	LED-
3	GND
4	VCC 2.8V
5	D/CX
6	CLK
7	SDA
8	CS
9	GND
10	RESET

于都上晴电子有限公司
YU DU AMSON ELECTRONICS Co., Ltd.

TITLE: OUTLINE DIMENSION

DRAWN BY: _____

CHECKED BY: _____

APPROVED BY: _____

D/N: AM-240240-015F

Rev: V0

SCALE: 1:1

SHEET NO. 1 OF 1

UNIT: mm

4. Interface Description

Pin	Symbol	Description.
1	LEDA	Anode pin of backlight
2	LEDK	Cathode pin of backlight
3	GND	Ground
4	VCC	Power supply
5	D/CX	Serves as command or parameter select.
6	CLK	This pin is used serial interface clock
7	SDA	This pin is used serial interface data.
8	CS	Chip select pin
9	GND	Ground
10	RESET	RESET pin

5. Absolute Maximum Ratings

Item	Symbol	Min	Max	Unit	Remark
Power Voltage	VCC	0.3	4.6	V	Note1、 Note2
Input Voltage	VIN	-0.3	VCC+0.5	V	
Operating temperature	TOPR	-20	70	°C	
Storage temperature	TSTR	-30	80	°C	
Humidity	---	---	90	%RH	---

If the absolute maximum rating of even is one of the above parameters is exceeded even momentarily, the quality of the product may be degraded. Absolute maximum ratings, therefore, specify the values exceeding which the product may be physically damaged. Be sure to use the product within the range of the absolute maximum ratings.

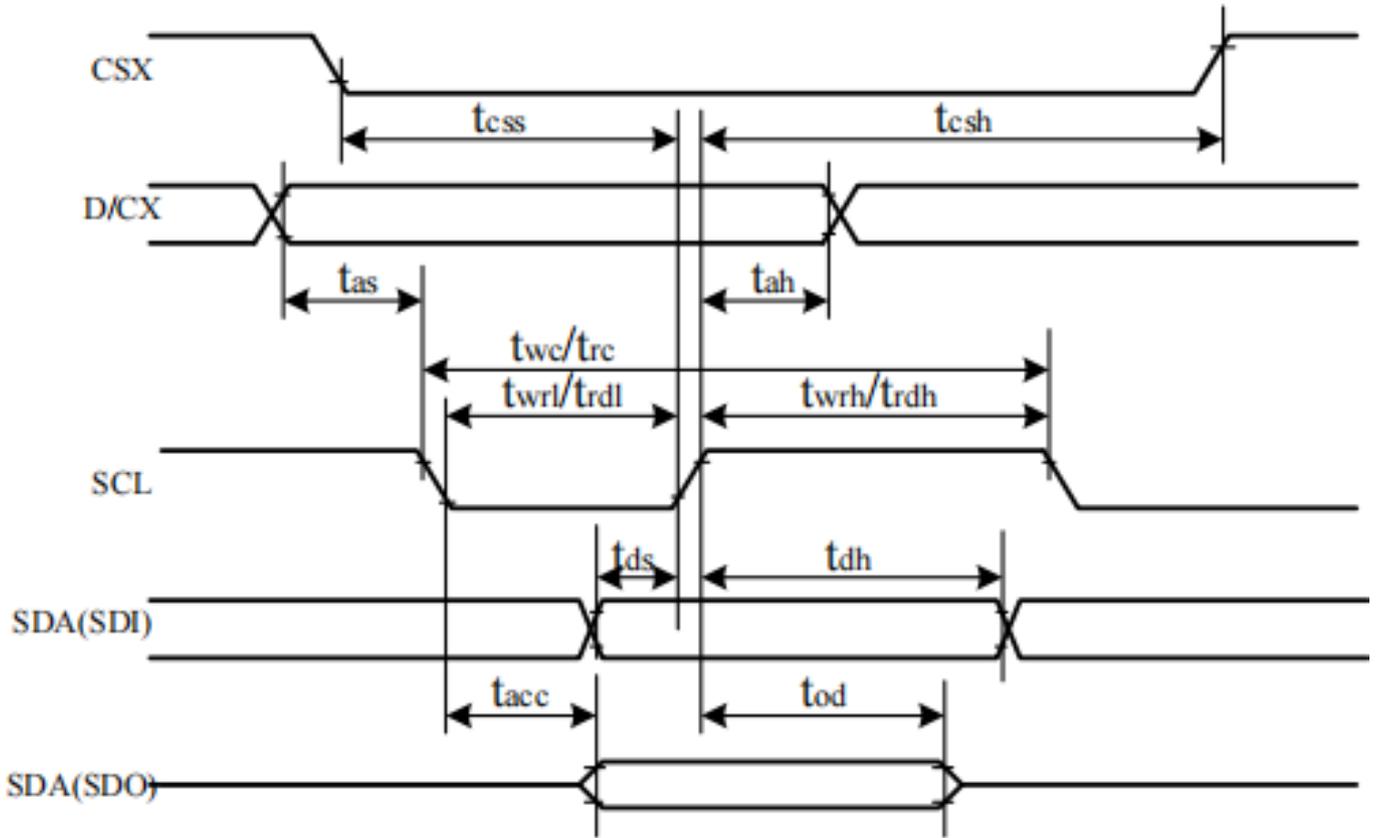
6. DC Characteristics

Item		Symbol	Rating			Unit	Remark
			Min	Typ	Max		
Power Voltage	Logic	VCC	2.4	2.8	3.3	V	
Input Voltage	L level	VIL	GND	---	0.3*VCC	V	VCC= 3.0~ 3.6V
	H level	VIH	0.7* VCC	---	VCC	V	

Remark:

Note1: Vcom must be adjusted to optimize display quality: Cross-talk, Contrast Ratio and etc.

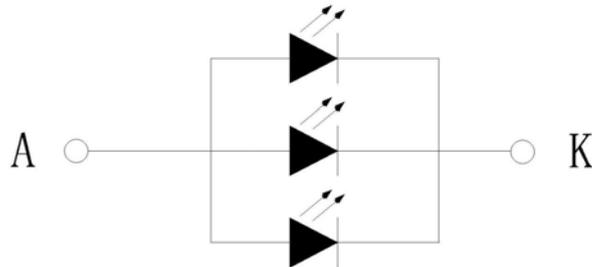
7. Timing Characteristics



Signal	Symbol	Parameter	min	max	Unit	Description
CSX	t_{css}	Chip select time (Write)	20	-	ns	
	t_{csh}	Chip select hold time (Read)	40	-	ns	
SCL	t_{wc}	Serial Clock Cycle (Write)	10	-	ns	
	t_{wrh}	SCL "H" Pulse Width (Write)	5	-	ns	
	t_{wrl}	SCL "L" Pulse Width (Write)	5	-	ns	
	t_{rc}	Serial Clock Cycle (Read)	150	-	ns	
	t_{rdh}	SCL "H" Pulse Width (Read)	60	-	ns	
	t_{rdl}	SCL "L" Pulse Width (Read)	60	-	ns	
D/CX	t_{as}	D/CX setup time	10	-	ns	
	t_{ah}	D/CX hold time (Write/Read)	10	-	ns	
SDA/SDI (Input)	t_{ds}	Data setup time (Write)	5	-	ns	
	t_{dh}	Data hold time (Write)	5	-	ns	
SDA/SDO (Output)	t_{acc}	Access time (Read)	10	-	ns	

8. Backlight Characteristics

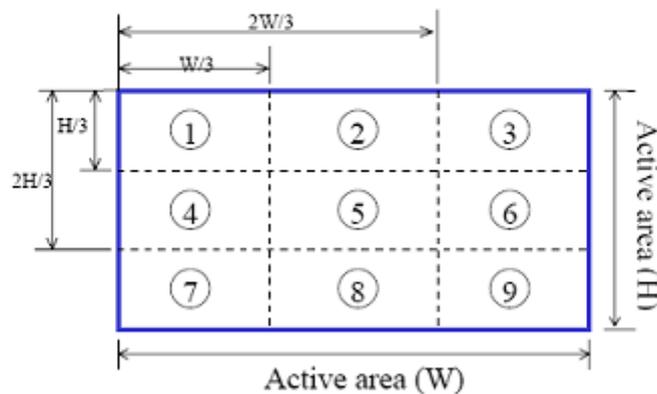
BACKLIGHT CIRCUIT DIAGRAM



Item	Symbol	MIN	TYP	MAX	UNIT	Test Condition
Supply Voltage	Vf	2.8	3.0	3.4	V	If=45mA
Supply Current	If	-	45	-	mA	-
Luminous Intensity for LCM	-	400	450	-	cd/m ²	If=45mA
Uniformity for LCM	-	80	-	-	%	If=45mA
Backlight Color	White					

Uniform measure condition:

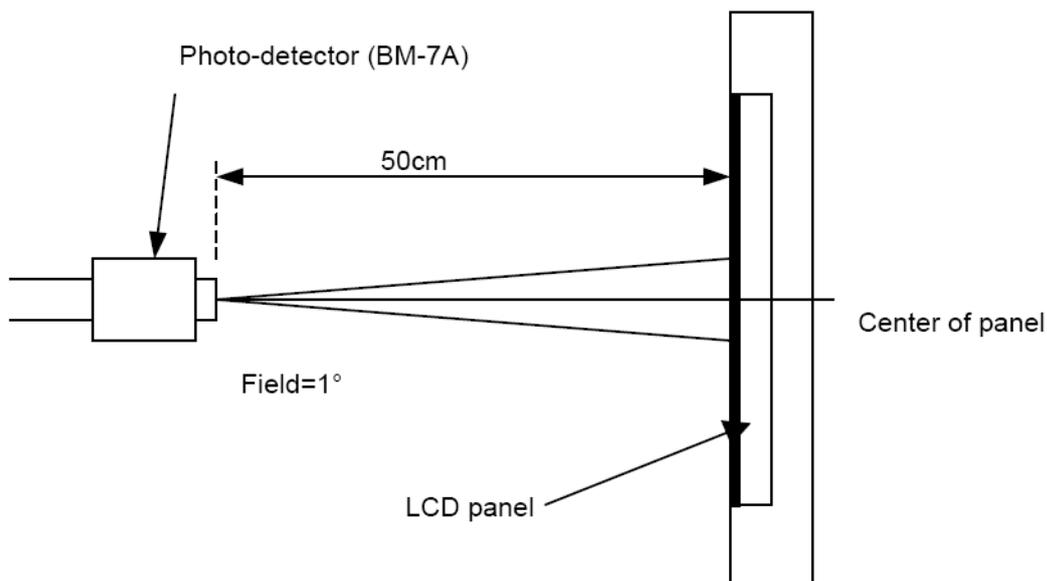
- (1) Measure 9 point. Measure location is show below :
- (2) Uniform = (Min. brightness / Max. brightness) × 100%
- (3) Best Contrast.



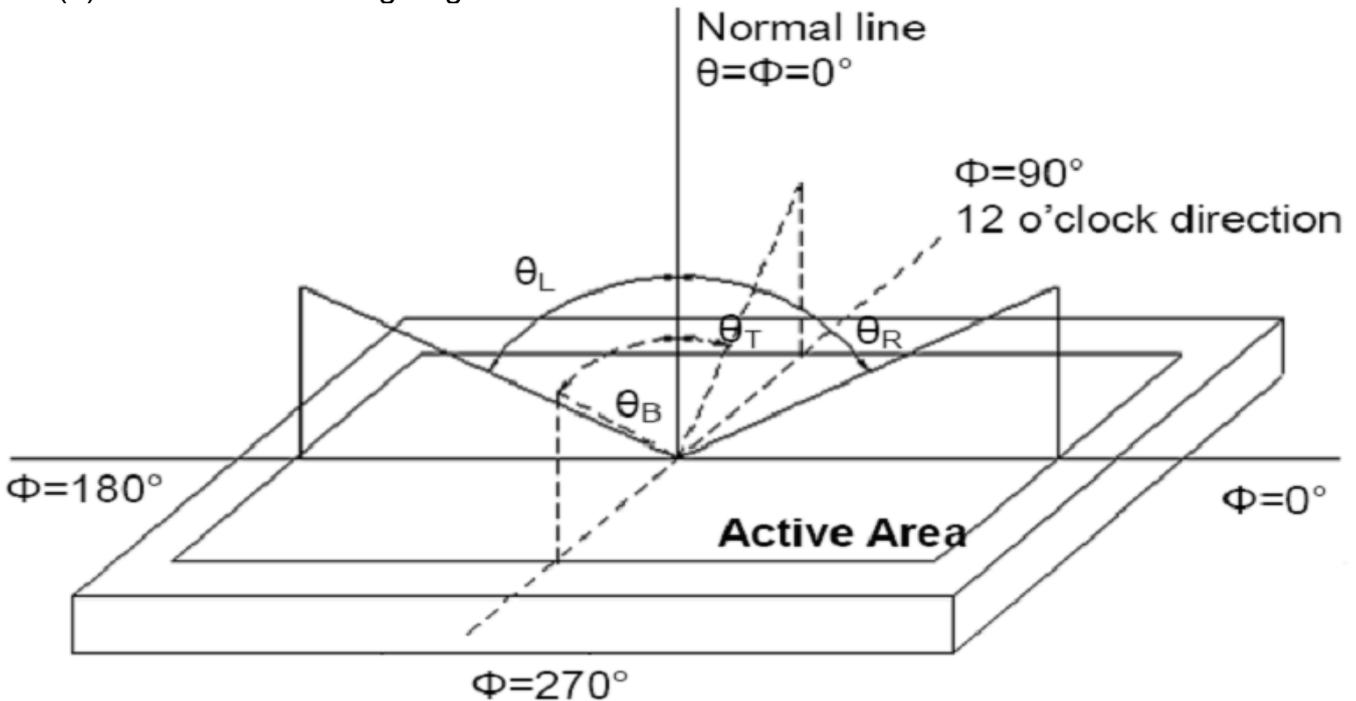
9. Optical Characteristics

Item	Conditions	Min.	Typ.	Max.	Unit	Note
Viewing Angle (CR>10)	Horizontal	θ_L	75	80	-	degree (1),(2),(6)
		θ_R	75	80	-	
	Vertical	θ_T	75	80	-	
		θ_B	75	80	-	
Contrast Ratio	Center	700	900	-	-	(1),(3),(6)
Response Time	$T_r + T_f$	-	30	35	ms	(1),(4),(6)
CF Color Chromaticity (CIE1931)	Red x	Typ. -0.05	0.631	Typ. +0.05	-	(1), (6)
	Red y		0.330		-	
	Green x		0.282		-	
	Green y		0.544		-	
	Blue x		0.138		-	
	Blue y		0.155		-	
	White x		0.310		-	
	White y		0.320		-	

Note (1) Measurement Setup: The LCD module should be stabilized at given temp. 25°C for 15 minutes to avoid abrupt temperature change during measuring. In order to stabilize the luminance, the measurement should be executed after lighting backlight for 15 minutes in a windless room.



Note (2) Definition of Viewing Angle



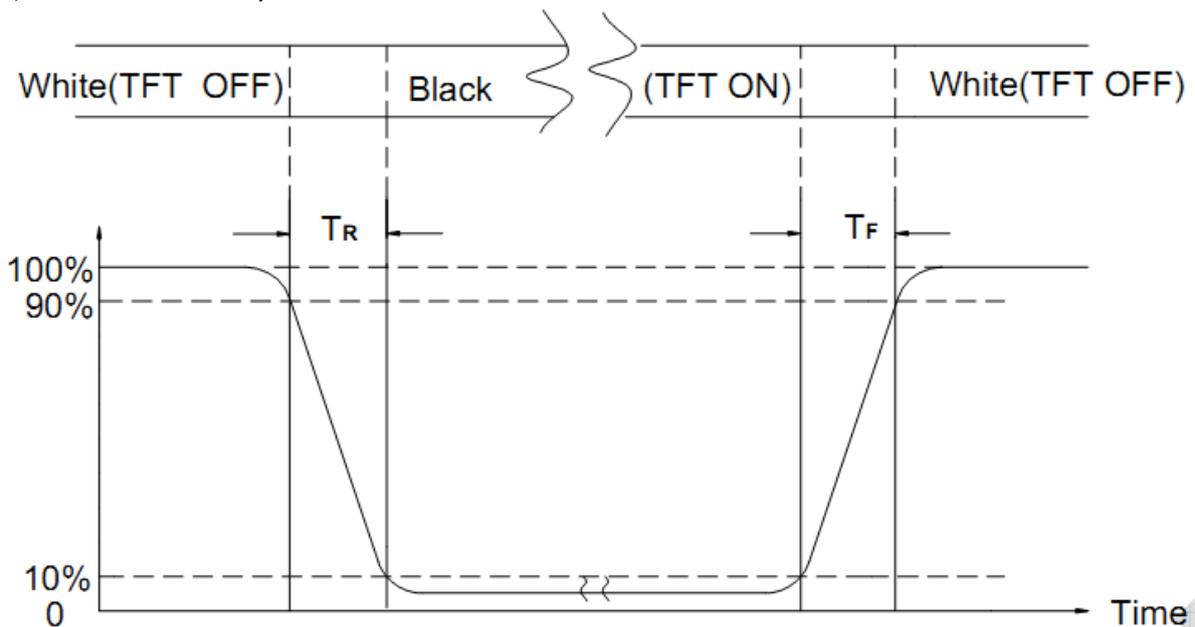
Note (3) Definition of Contrast Ratio (CR)

The contrast ratio can be calculated by the following expression

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

L63: Luminance of gray level 63, L0: Luminance of gray level 0

Note (4) Definition of response time



Note (5) Definition of Transmittance (Module is without signal input)

$$\text{Transmittance} = \text{Center Luminance of LCD} / \text{Center Luminance of Back Light} \times 100\%$$

Note (6) Definition of color chromaticity (CIE1931)

Color coordinates measured at the center point of LCD

10. Reliability Test Conditions and Methods

ITEM	CONDITIONS	CRITERION
OPERATING TEMPERATURE	HIGH TEMPERTURE +70°C 48HRS	NO DEFECT IN DISPLAYING AND OPERATIONAL FUNCTION
	LOW TEMPERTURE -20°C 48HRS	
STORAGE TEMPERATURE	HIGH TEMPERTURE +80°C 48HRS	NO DEFECT IN DISPLAYING AND OPERATIONAL FUNCTION
	LOW TEMPERTURE -30°C 48HRS	
HUMIDITY	40°C 90%RH 48HRS	NO DEFECT IN DISPLAYING AND OPERATIONAL FUNCTION
Thermal shock	Endurance test of low and high temperature cycles.(air to air)	-20±2°C (30min)→+25±2°C (30min) →+70(30min)±2°C,10 cycle

Note: The need to restore at room temperature for 2 hours after the test.

11. Inspection Standard

11.1 Inspection conditions is as follows:

- (1) Viewing distance is approximately 25 ~ 30 cm
- (2) Viewing angle is normal to the LCD panel as Fig _1 (45°)
- (3) Ambient temperature is approximately $25 \pm 5^\circ\text{C}$
- (4) Ambient humidity is $60 \pm 5\% \text{ RH}$
- (5) Function ambient luminance is from 300 ~ 500 Lux,
Appearance ambient luminance is from 500 ~ 800 Lux.
- (6) Input signal timing should be typical value.
- (7) Mura & Light leakage in View Area should be judged through ND-Filter 5% .

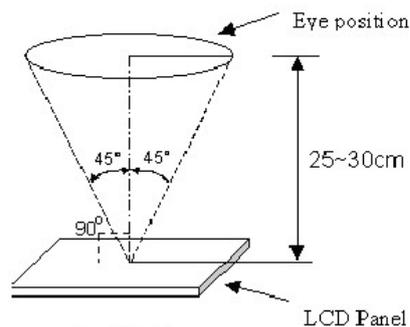


Fig _1

11.2 Test method: According to MIL-STD105E.General Inspection Level II take a single time.

The defects classify of AQL as following:

Major defect: AQL = 0.65

Minor defect: AQL = 1.5

Total defects: AQL = 1.5

Major defects (MA): A major defect refers to a defect that may substantially degrade usability for product applications, including all functional defects (such as no display, abnormal display, open or missing segment, short circuit, missing component), outline dimension beyond the drawing, progressive defects and those affecting reliability.

Minor defects (MI): A minor defect refers to a defect which is not considered to be able to substantially degrade the product application or a defect that deviates from existing standards almost unrelated to the effective use of the product or its operation, such as black spot, white spot, bright spot, pinhole, black line, white line, contrast variation, glass defect, polarizer defect, etc.

11.3 Non-conforming Analysis & Deal with Manners

11.3.1 Non- conforming Analysis:

11.3.1.1 Purchaser should supply the detail data of non- conforming sample and the non-conforming.

11.3.1.2 After accepting the detail data from purchaser, the analysis of non- conforming should be finished in two weeks.

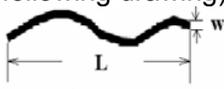
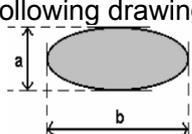
11.3.1.3 If supplier cannot finish analysis on time, must announce purchaser before 3 days.

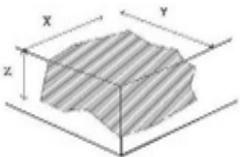
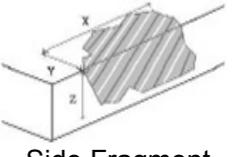
11.3.2 Disposition of non- conforming:

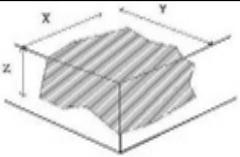
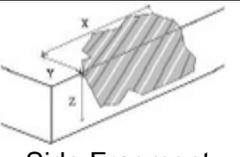
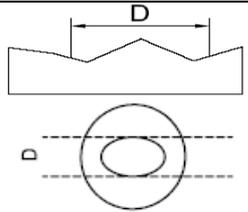
11.3.2.1 If find any product defect of supplier during assembly time, supplier must change the good product for every defect after recognition.

11.3.2.2 Both supplier and customer should analyze the reason and discuss the disposition of non- conforming when the reason of nonconforming is not sure.

11.4 Inspection Criteria

NO	Item	Criterion	AQL													
01	Electrical Testing	1.1 Missing vertical, horizontal segment, segment contrast defect. 1.2 Missing character, dot or icon. 1.3 Display malfunction. 1.4 No function or no display. 1.5 Current consumption exceeds product specifications. 1.6 LCD viewing angle defect. 1.7 Mixed product types. 1.8 Flicker 1.9 Touch Panel: no touch, bad touch	0.65													
02	Black or White spots or Bright spots or Color spots on LCD (Display only)	2.1 White and black or color spots on display $\leq 0.25\text{mm}$, no more than two spots. The distance between spots are larger than 10mm.	1.5													
03	Frame Pattern	Four border lines are fully visible in vertical view angle.	0.65													
04	Mura	Invisible through 5% ND filter or limited (Judged by limit sample if it has been defined)	1.5													
05	Tiny bright dot	 Invisible through 5% ND filter or limited sample. Densely spaced: more than three spots within 10mm.	1.5													
06	LCD Panel black spots, white spots, contamination (non – display)	Line type: (As following drawing) 	<table border="1"> <thead> <tr> <th>Length(mm)</th> <th>Width(mm)</th> <th>Acceptable Q'ty</th> </tr> </thead> <tbody> <tr> <td>---</td> <td>$W \leq 0.03$</td> <td>ignore</td> </tr> <tr> <td>$L \leq 5.0$</td> <td>$0.03 < W \leq 0.05$</td> <td>2</td> </tr> <tr> <td>---</td> <td>$0.05 < W$</td> <td>Rejection</td> </tr> </tbody> </table>	Length(mm)	Width(mm)	Acceptable Q'ty	---	$W \leq 0.03$	ignore	$L \leq 5.0$	$0.03 < W \leq 0.05$	2	---	$0.05 < W$	Rejection	1.5
		Length(mm)	Width(mm)	Acceptable Q'ty												
---	$W \leq 0.03$	ignore														
$L \leq 5.0$	$0.03 < W \leq 0.05$	2														
---	$0.05 < W$	Rejection														
Round type: As following drawing  $D = (a+b) / 2$	<table border="1"> <thead> <tr> <th>Size(mm)</th> <th>Acceptable Q'ty</th> </tr> </thead> <tbody> <tr> <td>$D \leq 0.10$</td> <td>ignore</td> </tr> <tr> <td>$0.10 < D \leq 0.25$</td> <td>2</td> </tr> <tr> <td>$0.25 < D$</td> <td>0</td> </tr> </tbody> </table>	Size(mm)	Acceptable Q'ty	$D \leq 0.10$	ignore	$0.10 < D \leq 0.25$	2	$0.25 < D$	0							
Size(mm)	Acceptable Q'ty															
$D \leq 0.10$	ignore															
$0.10 < D \leq 0.25$	2															
$0.25 < D$	0															
07	Polarizer bubbles	If bubbles are visible, judge using black spot specifications, <table border="1"> <thead> <tr> <th>Size D(mm)</th> <th>Acceptable Q'ty</th> </tr> </thead> <tbody> <tr> <td>$D \leq 0.10$</td> <td>Accept no dense</td> </tr> <tr> <td>$0.10 < D \leq 0.20$</td> <td>2</td> </tr> <tr> <td>$0.20 < D \leq 0.25$</td> <td>1</td> </tr> <tr> <td>$0.25 < D$</td> <td>0</td> </tr> </tbody> </table>	Size D(mm)	Acceptable Q'ty	$D \leq 0.10$	Accept no dense	$0.10 < D \leq 0.20$	2	$0.20 < D \leq 0.25$	1	$0.25 < D$	0	1.5			
Size D(mm)	Acceptable Q'ty															
$D \leq 0.10$	Accept no dense															
$0.10 < D \leq 0.20$	2															
$0.20 < D \leq 0.25$	1															
$0.25 < D$	0															

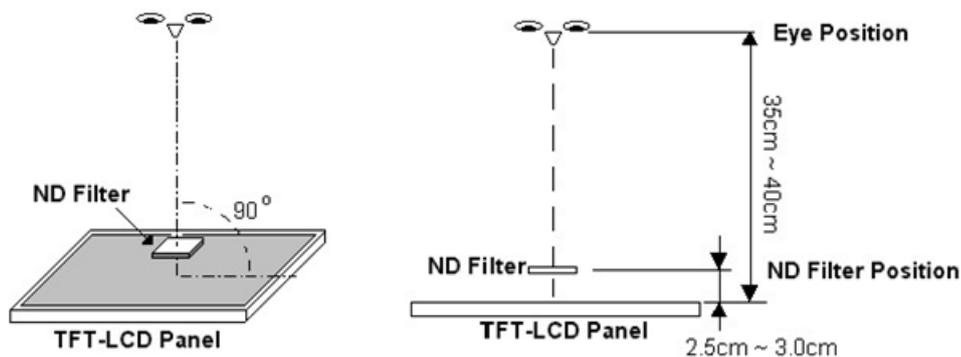
NO	Item	Criterion		AQL
08	Chipped glass	 <p>Corner Fragment</p>	Length $X < 0.5\text{mm}$ Width $Y < 0.5\text{ mm}$ Thickness $Z \leq \text{Glass thickness}$ (Sealant area could not be broken)	1.5
		 <p>Side Fragment</p>	Length $X < 1.0\text{ mm}$ Width $Y < 0.5\text{ mm}$ Thickness $Z \leq \text{Glass thickness}$ (Sealant area could not be broken)	1.5
		 <p>Bad Crack</p>	NOT ALLOWED	0.65
09	Backlight elements	Illumination source flickers when lit.		0.65
		Spots or scratches that appear when lit must be judged. Using LCD spot, lines and contamination standards.		1.5
		Backlight doesn't light or color is wrong		0.65
		Light leak	View Area: Invisible through 5% ND filter or limited sample. Outside of View Area: ignore	1.5
10	Bezel	Bezel must comply with product specifications.		0.65
11	FPC	FPC terminal damage $\leq 1/2$ FPC terminal width and can not affect the function, we judge accept.		1.5
		FPC alignment hole damage $\leq 1/2$ alignment area and can not affect the function, we judge accept.		0.65
12	Soldering	No cold solder joints, missing solder connections, oxidation or icicle.		1.5
		No short circuits in components on FPC		0.65

No	Item	Description	AQL								
13	Touch Panel Chipped glass	 Corner Fragment Length $X < 0.5\text{mm}$ Width $Y < 0.5\text{ mm}$ Thickness $Z \leq \text{Glass thickness}$ (Sealant area could not be broken)	1.5								
		 Side Fragment Length $X < 1.0\text{ mm}$ Width $Y < 0.5\text{ mm}$ Thickness $Z \leq \text{Glass thickness}$ (Sealant area could not be broken)	1.5								
		 Bad Crack NOT ALLOWED	0.65								
14	Touch Panel(Fish eye、dent、bubble on film and off the paint)	 <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Size(mm)</th> <th>Acceptable Q'ty</th> </tr> </thead> <tbody> <tr> <td>$D \leq 0.15$</td> <td>Accept no dense</td> </tr> <tr> <td>$0.15 < D \leq 0.25$</td> <td>2</td> </tr> <tr> <td>$0.25 < D$</td> <td>0</td> </tr> </tbody> </table>	Size(mm)	Acceptable Q'ty	$D \leq 0.15$	Accept no dense	$0.15 < D \leq 0.25$	2	$0.25 < D$	0	1.5
Size(mm)	Acceptable Q'ty										
$D \leq 0.15$	Accept no dense										
$0.15 < D \leq 0.25$	2										
$0.25 < D$	0										
15	Touch Panel Newton ring	Newton ring dimension $\leq 1/2$ touch panel area and not affect font and line distortion ($\leq 2.5\%$), it is acceptable.	1.5								
16	General appearance	13.1 Pin type must match type in specification sheet. 13.2 LCD pin loose or missing pins. 13.3 Product packaging must the same as specified on packaging specification sheet. 13.4 Product dimension and structure must conform to product specification sheet.	0.65								

[Note1] The definition of Bright dot

(1)The defective area of the dot is larger than 50% of one sub-pixel area.

(2)The bright dot shall be visible under ND-Filter 5%as following.



12. Handling Precautions

12.1.1 The display panel is made of glass and polarizer. As glass is fragile. It tends to become or chipped during handling especially on the edges. Please avoid dropping or jarring. Do not subject it to a mechanical shock by dropping it or impact.

12.1.2 If the display panel is damaged and the liquid crystal substance leaks out, be sure not to get any in your mouth. If the substance contacts your skin or clothes, wash it off using soap and water.

12.1.3 Do not apply excessive force to the display surface or the adjoining areas since this may cause the color tone to vary. Do not touch the display with bare hands. This will stain the display area and degraded insulation between terminals (some cosmetics are determined to the polarizer).

12.1.4 The polarizer covering the display surface of the LCD module is soft and easily scratched. Handle this polarizer carefully. Do not touch, push or rub the exposed polarizers with anything harder than an HB pencil lead (glass, tweezers, etc.). Do not put or attach anything on the display area to avoid leaving marks on it. Condensation on the surface and contact with terminals due to cold will damage, stain or dirty the polarizer. After products are tested at low temperature they must be warmed up in a container before coming in to contact with room temperature air.

12.1.5 If the display surface becomes contaminated, breathe on the surface and gently wipe it with a soft dry cloth. If it is heavily contaminated, moisten cloth with one of the following solvents

- Isopropyl alcohol
- Ethyl alcohol

Do not scrub hard to avoid damaging the display surface.

12.1.6 Solvents other than those above-mentioned may damage the polarizer. Especially, do not use the following.

- Water
- Ketone
- Aromatic solvents

Wipe off saliva or water drops immediately, contact with water over a long period of time may cause deformation or color fading. Avoid contact with oil and fats.

12.1.7 Exercise care to minimize corrosion of the electrode. Corrosion of the electrodes is accelerated by water droplets, moisture condensation or a current flow in a high-humidity environment.

12.1.8 Install the LCD Module by using the mounting holes. When mounting the LCD module make sure it is free of twisting, warping and distortion. In particular, do not forcibly pull or bend the I/O cable or the backlight cable.

12.1.9 Do not attempt to disassemble or process the LCD module.

12.1.10 NC terminal should be open. Do not connect anything.

12.1.11 If the logic circuit power is off, do not apply the input signals.

12.1.12 Electro-Static Discharge Control, Since this module uses a CMOS LSI, the same careful attention should be paid to electrostatic discharge as for an ordinary CMOS IC. To prevent destruction of the elements by static electricity, be careful to maintain an optimum work environment.

(1) Before removing LCM from its packing case or incorporating it into a set, be sure the module and your body have the same electric potential. Be sure to ground the body when handling the LCD modules.

(2) Tools required for assembling, such as soldering irons, must be properly grounded. Make certain the AC power source for the soldering iron does not leak. When using an electric screwdriver to attach LCM, the screwdriver should be of ground potentiality to minimize as much as possible any transmission of electromagnetic waves produced sparks coming from the

commutator of the motor.

(3) To reduce the amount of static electricity generated, do not conduct assembling and other work under dry conditions. To reduce the generation of static electricity be careful that the air in the work is not too dry. A relative humidity of 50%-60% is recommended. As far as possible make the electric potential of your work clothes and that of the work bench the ground potential.

(4)The LCD module is coated with a film to protect the display surface. Exercise care when peeling off this protective film since static electricity may be generated.

12.1.13 Since LCM has been assembled and adjusted with a high degree of precision; avoid applying excessive shocks to the module or making any alterations or modifications to it.

(1) Do not alter, modify or change the shape of the tab on the metal frame.

(2) Do not make extra holes on the printed circuit board, modify its shape or change the positions of components to be attached.

(3) Do not damage or modify the pattern writing on the printed circuit board.

(4)Absolutely do not modify the zebra rubber strip (conductive rubber) or heat seal connector.

(5)Except for soldering the interface, do not make any alterations or modifications with a soldering iron.

(6) Do not drop, bend or twist the LCM

12.2 Handling precaution for LCM

12.2.1 LCM is easy to be damaged. Please note below and be careful for handling.

12.2.2 Correct handling:



As above picture, please handle with anti-static gloves around LCM edges.



Please don't touch IC directly.



Please don't stack LCM.



Please don't hold the surface of panel such as FPC cable.



Please don't stretch interface of output,



Please don't hold the surface of IC.



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

12.3 Storage Precautions

12.3.1 When storing the LCD modules, the following precaution are necessary.

12.3.1.1 Store them in a sealed polyethylene bag. If properly sealed, there is no need for the

12.3.1.2 Store them in a dark place. Do not expose to sunlight or fluorescent light, keep the temperature between 0°C and 35°C, and keep the relative humidity between 40%RH and 60%RH.

12.3.1.3 The polarizer surface should not come in contact with any other objects (We advise you to store them in the anti-static electricity container in which they were shipped).

12.3.2 Transportation Precautions

12.3.2.1 During shipment, please handle with care. The packaging bag cannot be broken, step on trap. Packaging Carton layer height cannot be over two meters.

12.3.2.2 The transportation process should pay attention to the waterproof and moisture-proof measures. Product cannot be watering. Ethylene sealed bags cannot be unsealed.

12.3.3 Others

12.3.3.1 Liquid crystals solidify under low temperature (below the storage temperature range) leading to defective orientation or the generation of air bubbles (black or white). Air bubbles may also be generated if the module is subject to a low temperature.

12.3.3.2 If the LCD modules have been operating for a long time showing the same display patterns, the display patterns may remain on the screen as ghost images and a slight contrast irregularity may also appear. A normal operating status can be regained by suspending use for some time. It should be noted that this phenomenon does not adversely affect performance reliability. Please do not use in one picture for a long time; If fixed for a long time, an unrecoverable ghost images will appear.

12.3.4 Precautions for Operation

12.3.4.1 Viewing angle varies with the change of liquid crystal driving voltage (VLCD). Adjust VLCD to show the best contrast.

12.3.4.2 It is an indispensable condition to drive LCD's within the specified voltage limit since the higher voltage then the limit cause the shorter LCD life. An electrochemical reaction due to direct current causes LCD's undesirable deterioration, so that the use of direct current drive should be avoided.

12.3.4.3 Response time will be extremely delayed at lower temperature than the operating temperature range and on the other hand at higher temperature LCD's show dark color in them. However those phenomena do not mean malfunction or out of order with LCD's, which will come back in the specified operating temperature.

12.3.4.4 If the display area is pushed hard during operation, the display will become abnormal. However, it will return to normal if it is turned off and then back on.

12.3.4.5 A slight dew_s depositing on terminals is a cause for electro-chemical reaction resulting in terminal open circuit. Usage under the maximum operating temperature, 50%RH or less is required.

12.3.4.6 Input logic voltage before apply analog high voltage such as LCD driving voltage when power on. Remove analog high voltage before logic voltage when power off the module. Input each signal after the positive/negative voltage becomes stable.

12.3.4.7 Please keep the temperature within the specified range for use and storage. Polarization degradation, bubble generation or polarizer peel-off may occur with high temperature and high humidity.

12.3.4.8 It is easy to cause image sticking while displaying the same pattern for very long time.

12.4 Safety

12.4.1 It is recommended to crush damaged or unnecessary LCDs into pieces and wash them off with solvents such as acetone and ethanol, which should later be burned.

12.4.2 If any liquid leaks out of a damaged glass cell and comes in contact with the hands, wash off thoroughly with soap and water.

12.5 Limited Warranty

Unless agreed between AMSON and the customer, AMSON will replace or repair any of its LCD modules and Touch Panel which are found to be functionally defective when inspected in accordance with AMSON LCD acceptance standards (copies available upon request) for a period of one year from date of production.

Cosmetic/visual defects must be returned to AMSON within 90 days of shipment. Confirmation of such date shall be based on data code on product. The warranty liability of AMSON limited to repair and/or replace on the terms set forth above. AMSON will not be responsible for any subsequent or consequential events.

12.6 Return LCM under warranty

12.6.1 No warranty can be granted if the precautions stated above have been disregarded. The typical examples of violations are:

12.6.1.1 - Broken LCD glass and Touch Panel Chipped glass.

12.6.1.2- FPC eyelet is damaged or modified

12.6.1.3- FPC conductors damaged.

12.6.1.4- Circuit modified in any way, including addition of components.

12.6.1.5- FPC tampered with by grinding, engraving or painting varnish.

12.6.1.6- Soldering to or modifying the bezel in any manner.

13. Agreement Items

Both sides should discuss together when the following problems happen.

13.1 There is any problem of standard of quality assurance, and both sides should think that must be modified.

13.2 There is any argument item which does not record in the standard of quality assurance.

13.3 Any other special problem.

14. Packing Method

TBD