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SPECIFICATION

VX69868-CN036MZ

☒ Preliminary Specification

☐ Final Specification



CUSTOMER:

Made By:
Checked By:
Approved By:
Quality:
Date:
Note:

Approved By:
Date:
Note:

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RECORDS OF REVISION

DATE	REVISED NO.	REVISED DESCRIPTIONS	PREPARED	CHECKED	APPROVED
2024-04-17	V01	新版发行(在 V00 基础上改触盘和触盘之间增加 PIN)	SYM	/	LS
2024-04-18	V02	改六个触盘和走线,调整显示图案尺寸	SYM	/	LS

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1. GENERAL SPECIFICATIONS

1-1.DESRIPTION:

The VX69868-CN036MZ is a dot matrix mono Liquid Crystal Display Module(LCM).

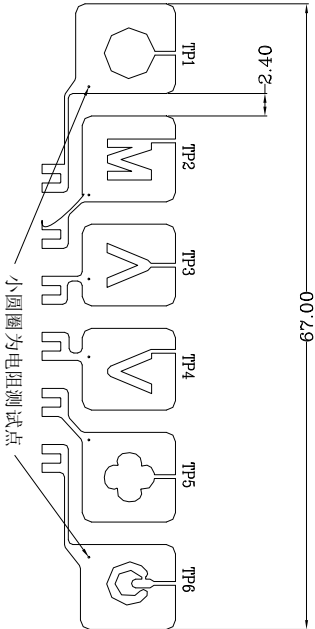
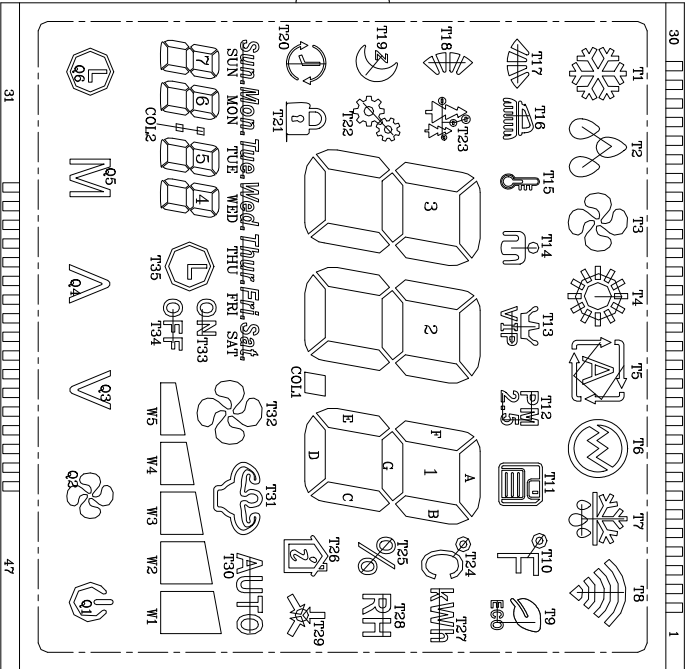
This specification covers the delivery requirements for the liquid crystal display delivered by Victronix to customer.

1-2. FEATURES

- (1) Display Type: HTN, Positive, Transflective, 6 O'clock
- (2) Driving Method: 1/4D,1/3B
- (3) Built-in controller:TBD
- (4) With Backlight: White IF=100mA,VF=3.0(TYP)

1-3.GENERAL SPECIFICATION

ITEM	SPECIFICATIONS	UNIT
DISP.CONSTRUCTION	TBD	--
OUTLINE DIMENSIONS	74.54(W) x 73.26(H) x 4.8(T)(Not Included FPC)	mm
VIEWING AREA	67.54(W)*65.26(H)	mm
ACTIVE AREA	TBD	mm
DOT SIZE	TBD	mm
DOT PITCH	TBD	mm
ASSY.TYPE	PIN+BL	--
INTERFACE	TBD	--
BACKLIGHT	White IF=100mA,VF=3.0(TYP)	--



用80欧电阻测

小圆圈为电阻测试点

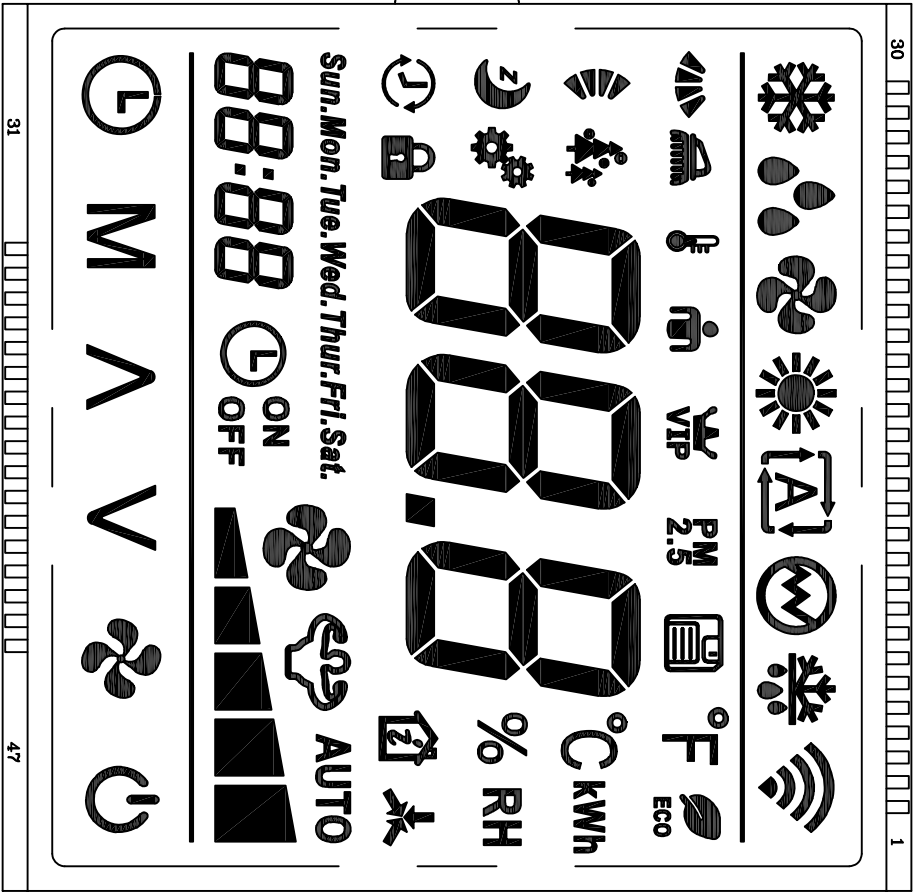
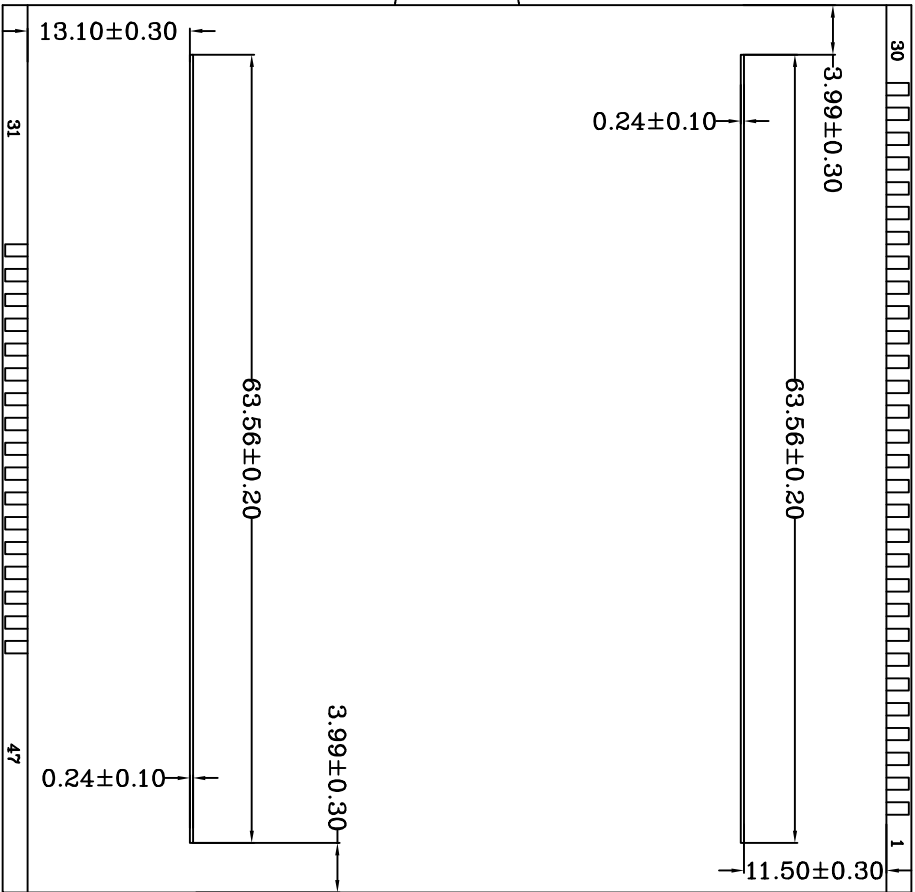
PIN	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
触摸按键	TP1	NC	TP2	NC	TP3	NC	TP4	NC	TP5	NC	TP6	NC	TP7	NC	TP8	NC	TP9
阻值? MIN	2032.3		809.8		435.6		332.8		622.1		2017.1		1882.2		1763.0		1763.0
阻值? TYP	1893.3		763.0		413.8		320.4		600.4		1882.2		1763.0		1763.0		1763.0
阻值? MAX	1775.8		717.3		394.7		311.2		570.3		1763.0		1763.0		1763.0		1763.0

TP1和TP6阻值相对大

PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
COM1	COM1	--	--	--	W1	Q1	Q2	T25	T5	T4	T14	T13	T24	1D	COL1	2D	STA	3D	T18	T23	FRI	Q3	Q4	4D	Q5	5D	COL2	6D	Q6	7D
COM2	--	COM2	--	--	W2	W4	W5	T28	T6	T3	T15	T12	1C	1E	2C	2E	3C	3E	T19	T22	THU	T34	4C	4E	5C	5E	6C	6E	7C	7E
COM3	--	--	COM3	--	W3	T31	T32	T27	T7	T2	T16	T11	1G	1F	2G	2F	3G	3F	T20	T21	WED	T33	4G	4F	5G	5F	6G	6F	7G	7F
COM4	--	--	--	COM4	T30	T29	T26	T9	T8	T1	T17	T10	1B	1A	2B	2A	3B	3A	SUN	MON	TUE	T35	4B	4A	5B	5A	6B	6A	7B	7A

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设计	SYME	BOM NO.:	MODEL NO.:			
审核	II, S	VER:3.0	VX69868-CN036MZ			
批准	II, S	UNMARK TOL.:±0.2	SCALE: 1:1	UNIT: mm	PAGE: 2/3	



黑色丝印在底玻璃片上

显示效果图

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设计	SY ME	BOM NO.:	MODEL NO.:		
审核	II, II	VER:3.0	VX69868-CN036MZ		
批准	II, II	UNMARK TOL.:±0.2	SCALE: 1:1	UNIT: mm	PAGE: 3/3

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3.ABSOLUTE MAXIMUM RATING

ITEM	SYMBOL	STANDARD VALUE			UNIT
		MIN	TYP	MAX	
SUPPLY VOLTAGE FOR LOGIC	VDD	--	--	--	V
INPUT VOLTAGE	VIN	--	--	--	V
OPERATING TEMPERATURE	T _{OP}	-20	--	70	°C
STORAGE TEMPERATURE	T _{STG}	-30	--	80	°C

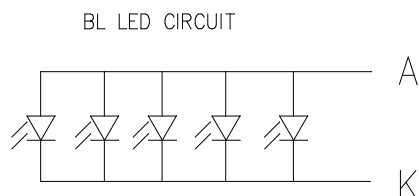
4.ELECTRICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITIONS	STANDARD VALUE			UNIT
			MIN	TYP	MAX	
SUPPLY VOLTAGE FOR LOGIC	VDD	Ta= 25°C	--	--	--	V
SUPPLY VOLTAGE FOR LCD	V0-XV0		--	5.0	--	V
INPUT VOLTAGE “H” LEVEL	VIH		0.8VDD	--	VDD	V
INPUT VOLTAGE “L” LEVEL	VIL		VSS	--	0.2VDD	V
OUTPUT VOLTAGE “H” LEVEL	VOH		0.8VDD	--	VDD	V
OUTPUT VOLTAGE “L” LEVEL	VOL		VSS	--	0.2VDD	V
CURRENT CONSUMPTION (CHECKER)	IDD		--	--	--	mA

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5. LED BACKLIGHT

5-1 LED CIRCUIT:



$$I_F=100\text{mA}, V_F=3.0(\text{TYP})$$

5-2.ABSOLUTE MAXIMUN RATING

PARAMETER	SYMBOL	SPECIFICATIONS	UNIT
POWER DISSIPATION	PD	--	mW
FORWARD CURRENT	Ifm	100	mA
REVERSE VOLTAGE	Vr	5.0	V
OPERATION TEMPERATURE	TOPR	-20~70	°C
STORAGE TEMPERATURE	TSTG	-30~80	°C

5-3. ELECTRICAL CHARACTERISTICS (Ta=25°C)

PARAMETER	SYMBOL	LIGHT SOURCE	CONDITIONS	STANDARD VALUE			UNIT
				MIN	TYP	MAX	
FORWARD VOLTAGE	VF	WHITE	IF=100mA		3.0	-	V
REVERSE CURRENT	IR		Vr= 5.0V/LED	-	-	10	uA
BL BRIGHTNESS	Lv		IF=100mA	900	1400	-	cd/m ²
CIE Color Coordinate(without LCD)	X		IF=100mA	0.25	0.28	0.31	--
	Y		IF=100mA	0.24	0.27	0.30	
LUMINOUS UNIFORMITY	Δ		IF=100mA	75	-	-	--

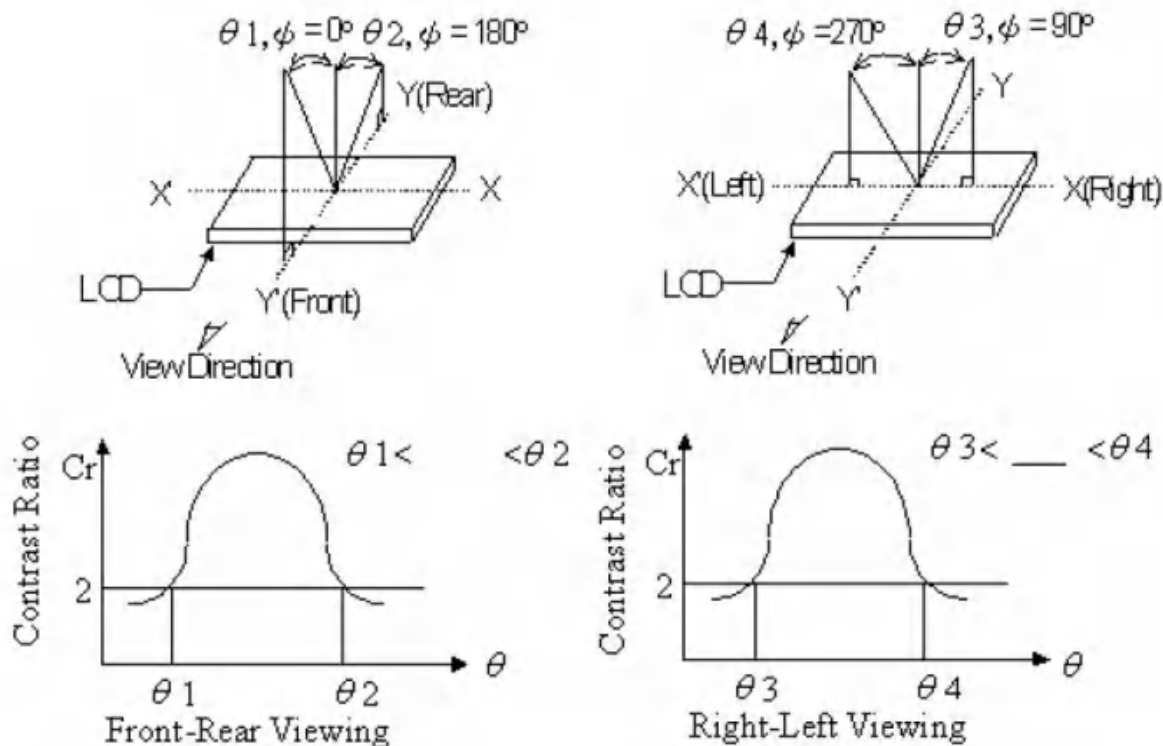
Note: Uniformity $\Delta=(\text{minum LV}/\text{maximum LV})*100\%$.

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6.OPTICAL CHARACTERISTICS

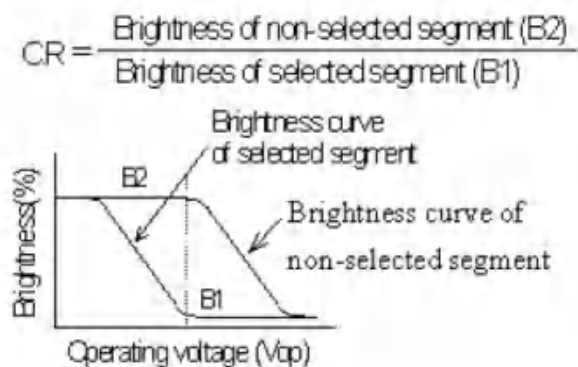
Item	Symbol	Condition	Min	Typ	Max	Unit	Remark	Note
Viewing angle range	θ ($Cr \geq 2$)	$\Phi = 90^\circ$	--	15	---	deg	FIG 5.	6
		$\Phi = 270^\circ$	--	40	---	deg	FIG 5.	6
		$\Phi = 0^\circ$	--	45	---	deg	FIG 5.	6
		$\Phi = 180^\circ$	--	45	---	deg	FIG 5.	6
Response time	Tr	$\theta=0^\circ$ $\Phi=0^\circ$ $Ta=25^\circ C$	---	70	---	ms	FIG.3	4
	Tf		---	70	---	ms	FIG.3	4
Contrast ratio	Cr		---	3	---	---	FIG 4.	1
Luminance uniformity	δ --		70	80	---	%	FIG 4.	3
Surface Luminance	Lv		--	--	---	cd/m ²	FIG 4.	2
CIE(x,y) chromaticity	--	x	0.232	0.292	0.352	---	FIG 4.	5
		y	0.273	0.333	0.393	---		

(1) DEFINITION OF VIEWING ANGLE

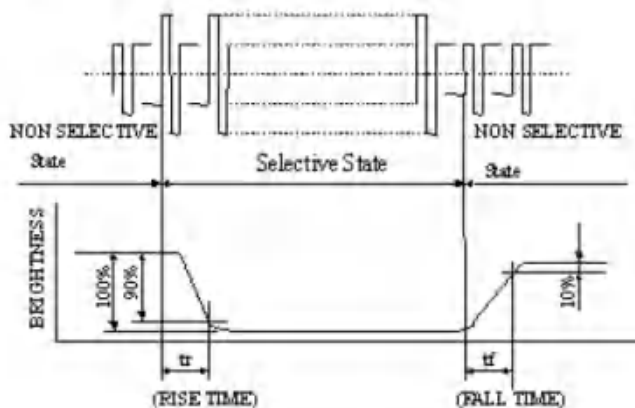


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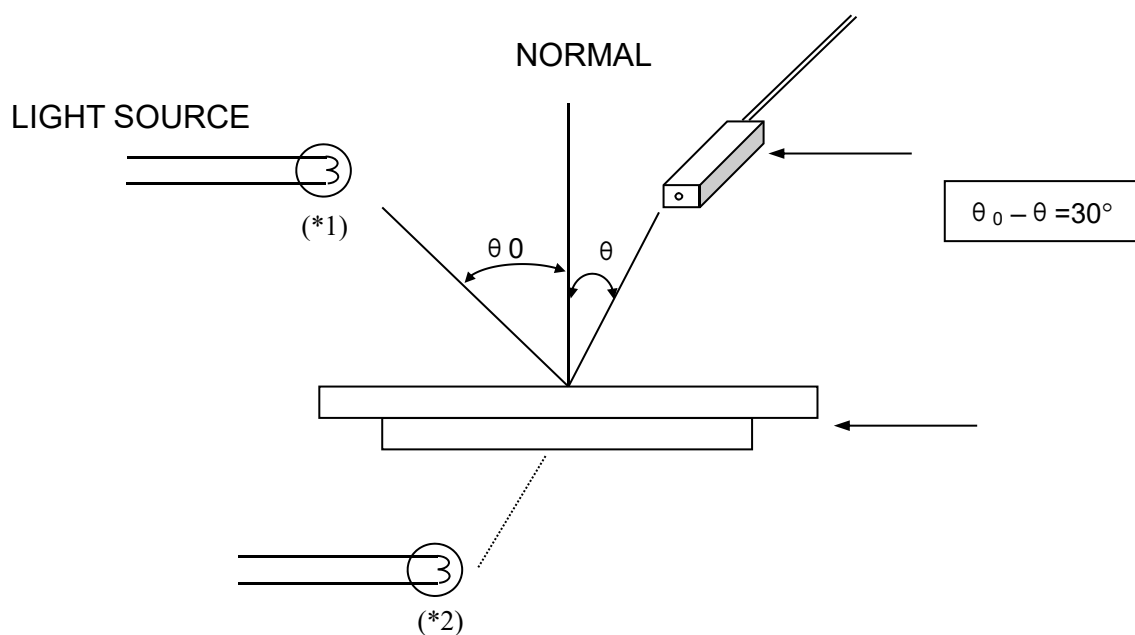
(2) DEFINITION OF CONTRAST



(3) DEFINITION OF RESPONSE



(4) MEASURING INSTRUMENTS FOR ELECTRO-OPTICAL CHARACTERISTICS



*1.Light source position for measuring the reflective type of LCD panel

*2.Light source position for measuring the transfective / transmissive types of LCD panel

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7. ENVIRONMENTAL ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	CONDITIONS	CRITERION
OPERATING TEMPERATURE	TOPR	-20℃～+70℃	NO DEFECT IN DISPLAYING AND OPERATIONAL FUNCTION
STORAGE TEMPERATURE	TSTG	-30℃～+80℃	NO DEFECT IN DISPLAYING AND OPERATIONAL FUNCTION
HUMIDITY	—	See Note	WITHOUT CONDENSATION

Note: Test condition:

1) Temperature and humidity: if no specification, temperature set at 25+/-2℃, and humidity set at 60+/-5% RH.

2)Operating state:all the tests to which the samples subject should be in operating condition.

8. RELIABILITY TEST

ITEM	CONDITIONS	CRITERION
Operating Temperature	HIGH TEMPERTURE 70℃ 96HRS	No defect in displaying and operational function
	LOW TEMPERTURE -20℃ 96HRS	
Storage Temperature	HIGH TEMPERTURE +80℃ 96HRS	No defect in displaying and operational function
	LOW TEMPERTURE -30℃ 96HRS	
High Humidity & high Temp	60℃* 90%RH 96HRS	No defect in displaying and operational function
Vibration	- Operating Time: 30 minutes exposure for each direction (X,Y,Z) - Sweep Frequency: 10～55Hz (1 min) - Amplitude: 1.5mm	No defect in displaying and operational function
Thermal Shock	-40℃(30mins) ↔ +85℃(30mins) 10 cycles	No defect in displaying and operational function

NOTE:1. The samples must be free from defect before test, must be restore at room condition at least for 2 hours after reliability test before any inspection.

2. In case of malfunction defect caused by ESD damage, if it would be recovered to normal state after resetting, it would be judge as a good part.