MODEL NO. : G1120TB101GG-001

ISSUED DATE: 2016-05-20

VERSION : A0

■Preliminary Specification

□Final Product Specification

Customer :_____

Approved by	Notes

GVO Confirmed :

Prepared by	Checked by	Approved by
黄赛博	刘敏	魏朝刚

This technical specification is subjected to change without notice.

Table of Contents

Record of Revision

Rev	Issue Date	Description	Editor
A0	2016.5.19	Draft	Huang Saibo

1 General Specifications

Feature		Spec	Remark
Display Spec	Screen Size (inch)	1.2	
	Display Mode	AMOLED	
	Resolution(dot)	390(W) x RGB x 390(H)	
	Active Area(mm)	Φ30.42	
	Pixel Pitch (um)	78.00×78.00	
	Pixel Configuration	V-Style3	
	Technology Type	LTPS	
	Color Depth	16.7M	
	Interface	MIPI 1 Lane	
	Surface Treatment	Hard Coating	
Mechanical Characteristics	With TP/Without TP	Without TP	
	Module Outline Dimension(mm)	Φ33.22x34.72x0.67	
Electronic	Driver IC	RM67162	

Note 1: Requirements on Environmental Protection: RoHS.

2 Input/output Terminals

2.1 Main FPC Pin Assignment-AMOLED Panel Input / Output Signal Interface

FPC connector：504248-2410（Molex）.

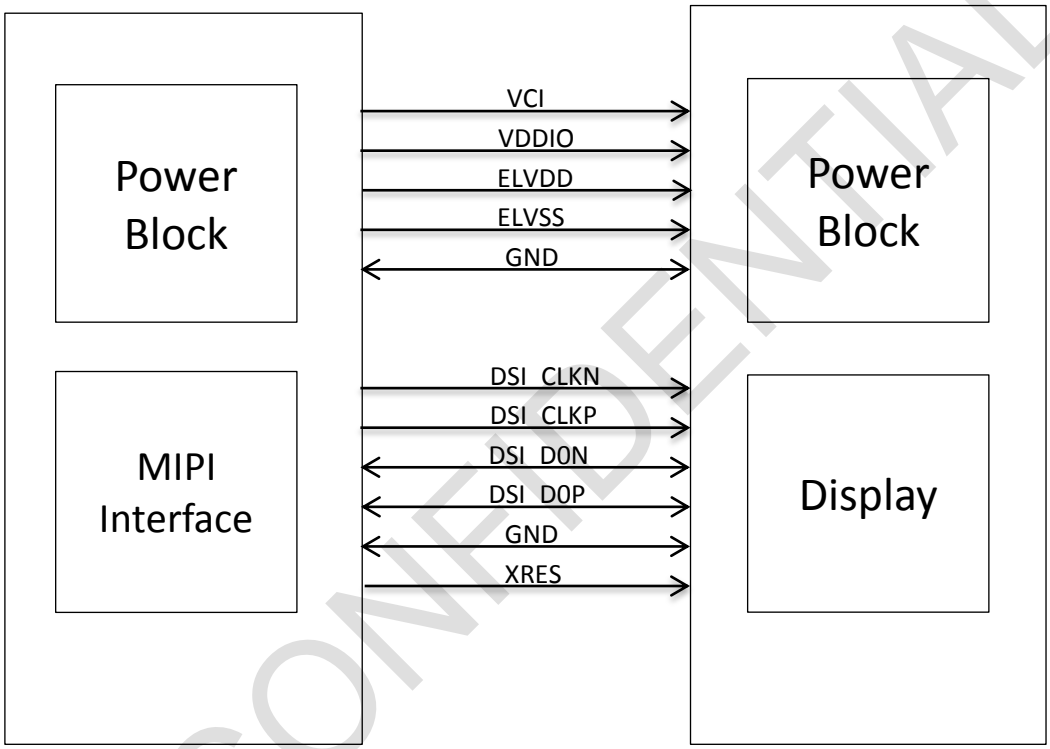
Main board recommended connector：504208-2410（Molex）.

No	Symbol	I/O	Description
1	GND	Power	Ground
2	XRES	I	Device reset signal(0:enable;1:disable)
3	DSI_D0N	I/O	MIPI negative data signal
4	SWIRE	O	SWIRE signal for power IC control
5	DSI_D0P	I/O	MIPI positive data signal
6	OTP	-	OTP function pin .Leave this pin floating if it is not used
7	GND	Power	Ground
8	TE	O	Vsync(vertical sync)signal output from panel to avoid tearing effect
9	DSI_CLKN	I	MIPI negative clock signal
10	GND	Power	Ground
11	DSI_CLKP	I	MIPI positive clock signal
12	GND	Power	Ground
13	GND	Power	Ground
14	GND	Power	Ground
15	VDDIO	Power	Power supply for Interface system except MIPI interface
16	VCI	Power	Driver analog power supply
17	GND	Power	Ground
18	GND	Power	Ground
19	ELVSS	Power	AMOLED negative power supply
20	ELVDD	Power	AMOLED positive power supply
21	ELVSS	Power	AMOLED negative power supply
22	ELVDD	Power	AMOLED positive power supply
23	ELVSS	Power	AMOLED negative power supply

24	ELVDD	Power	AMOLED positive power supply

Note: I=Input; O=Output; I/O=Input / Output

2.2 System BD and Display Module Interface Configuration



3 Absolute Maximum Ratings

3.1 Driving AMOLED Panel

Maximum Ratings (Voltage Referenced to VSS) Vss=0V, Ta=25°C

Item	Symbol	MIN	MAX	Unit	Remark
Analog Power Supply	VCI	-0.3	+5.5	V	
Digital Power Supply	VDDIO	-0.3	+5.5	V	
Positive Power Input	ELVDD	-	+5.0	V	
Negative Power Input	ELVSS	-5.0	-	V	

Note: Functional operation should satisfy the limits in the Electrical Characteristics tables or Pin Description section. If the module exceeds the absolute maximum ratings, permanent damage may occur. Besides, if the module is operated with the absolute maximum ratings for a long time, the reliability may also drop.

4 Electrical Characteristics

4.1 Driving AMOLED Panel

Ta=25℃

Item		Symbol	MIN	TYP	MAX	Unit	Remark
Digital Supply Voltage		VDDIO	1.65	1.80	3.30	V	Note1,Note2
Analog Power Supply		VCI	2.70	2.80	3.60	V	
Positive Power Input		ELVDD	4.55	4.60	4.65		
Negative Power Input		ELVSS	-	TBD	-		
Input Signal Voltage	High Level	VIH	0.80*VDDIO	-	VDDIO	V	
	Low Level	VIL	0.00	-	0.20*VDDIO	V	
Output Signal Voltage	High Level	VOH	0.80*VDDIO	-	VDDIO	V	
	Low Level	VOL	0.00	-	0.20*VDDIO	V	

Note1: The input digital voltage is the I/O reference voltage.

Note2: VDDIO usually ranges from 1.65V to 1.95 V. If VDDIO is changed, the remaining voltage needs to be changed to the same voltage as VDDIO.

4.2 Current Consumption

Item	Symbol	Condition	Min.	Typ.	Max.	Unit	Remark
Panel Power	P_{NL}	ELVDD=4.60V	-	TBD	TBD	mW	Note1

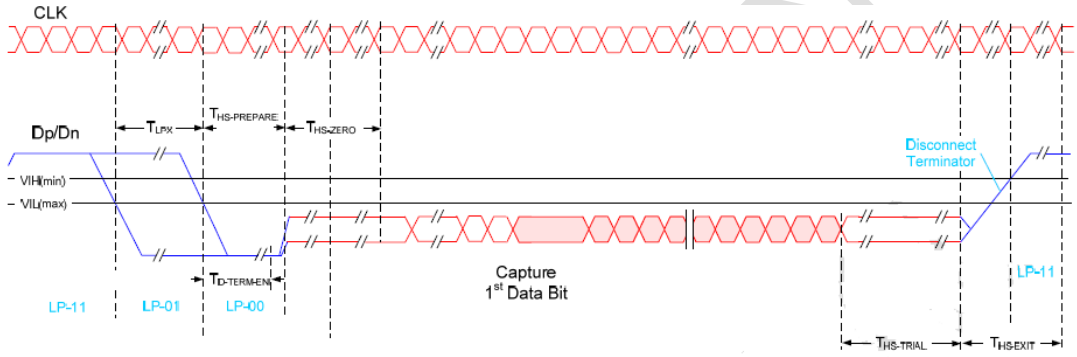
		I_{NL}	ELVSS=-TBD	-	TBD	TBD	mA	Note1
IC	Normal	I_{VCI}	VCI=2.80V	-	TBD	TBD	mA	-
		I_{VDDIO}	VDDIO=1.80V	-	TBD	TBD	mA	-
	Stand-by	I_{VCI}	VCI=2.80V	-	-	TBD	uA	-
		I_{VDDIO}	VDDIO=1.80V	-	-	TBD	uA	-

Note1: Based on L255 (350nits) full white pattern.

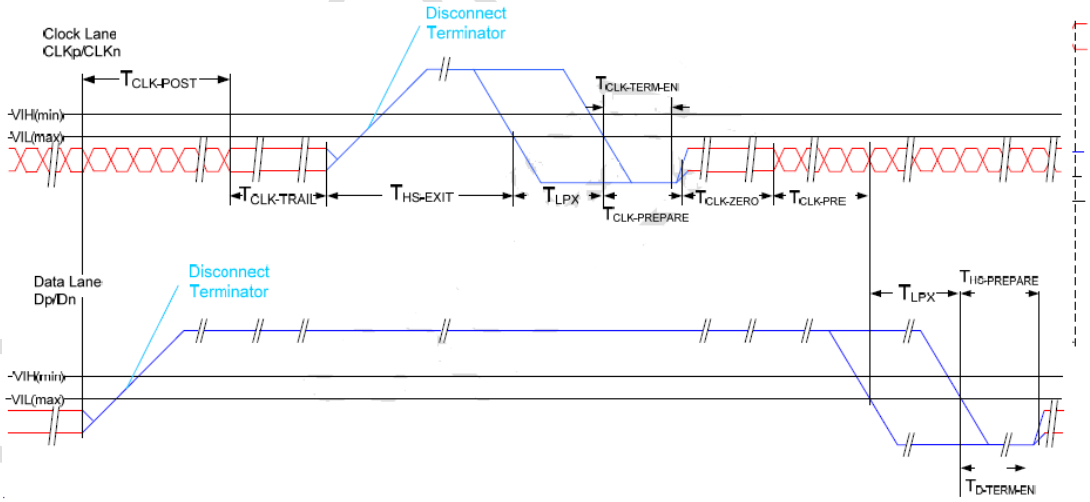
5 AC Characteristics

5.1 MIPI Interface Characteristics

HS Data Transmission Burst



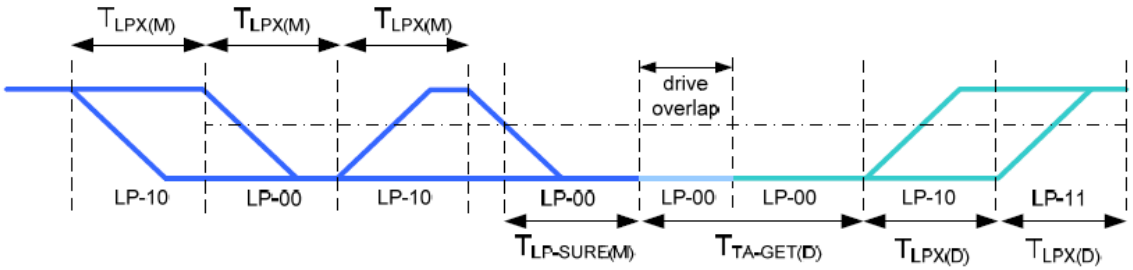
HS clock transmission



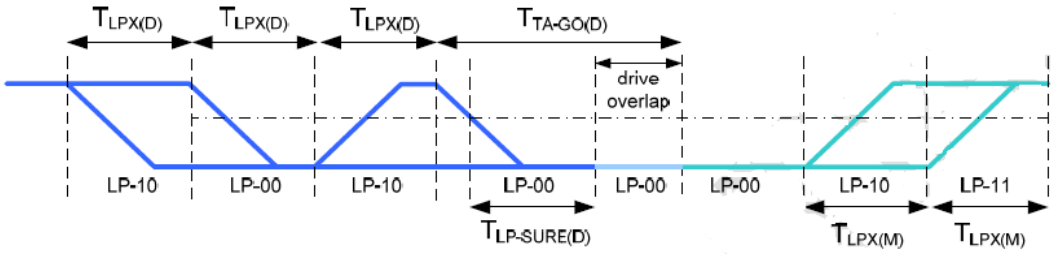
Timing Parameter:

Parameter	Description	Min	Typ	Max	Unit
$T_{CLK-POST}$	Time that the transmitter continues to send HS clock after the last associated Data Lane has transitioned to LP Mode. Interval is defined as the period from the end of $T_{HS-TRAIL}$ to the beginning of $T_{CLK-TRAIL}$.	60ns + 52*UI			ns
$T_{CLK-TRAIL}$	Time that the transmitter drives the HS-0 state after the last payload clock bit of a HS transmission burst.	60			ns
$T_{HS-EXIT}$	Time that the transmitter drives LP-11 following a HS burst.	**300**			ns
$T_{CLK-TERM-EN}$	Time for the Clock Lane receiver to enable the HS line termination, starting from the time point when Dn crosses $V_{IL,MAX}$.	Time for Dn to reach $V_{TERM-EN}$		38	ns
$T_{CLK-PREPARE}$	Time that the transmitter drives the Clock Lane LP-00 Line state immediately before the HS-0 Line state starting the HS transmission.	38		95	ns
$T_{CLK-PRE}$	Time that the HS clock shall be driven by the transmitter prior to any associated Data Lane beginning the transition from LP to HS mode.	8			UI
$T_{CLK-PREPARE}$ + $T_{CLK-ZERO}$	$T_{CLK-PREPARE}$ + time that the transmitter drives the HS-0 state prior to starting the Clock.	300			ns
$T_{D-TERM-EN}$	Time for the Data Lane receiver to enable the HS line termination, starting from the time point when Dn crosses $V_{IL,MAX}$.	Time for Dn to reach $V_{TERM-EN}$		35 ns +4*UI	
$T_{HS-PREPARE}$	Time that the transmitter drives the Data Lane LP-00 Line state immediately before the HS-0 Line state starting the HS transmission	40ns + 4*UI		85 ns + 6*UI	ns
$T_{HS-PREPARE}$ + $T_{HS-ZERO}$	**$T_{HS-PREPARE}$ + time that the transmitter drives the HS-0 state prior to transmitting the Sync sequence.**	**145ns + 10*UI**			**ns**
$T_{HS-TRAIL}$	Time that the transmitter drives the flipped differential state after last payload data bit of a HS transmission burst	60ns + 4*UI			ns

Turnaround Procedure



Bus turnaround (BAT) from MPU to display module timing



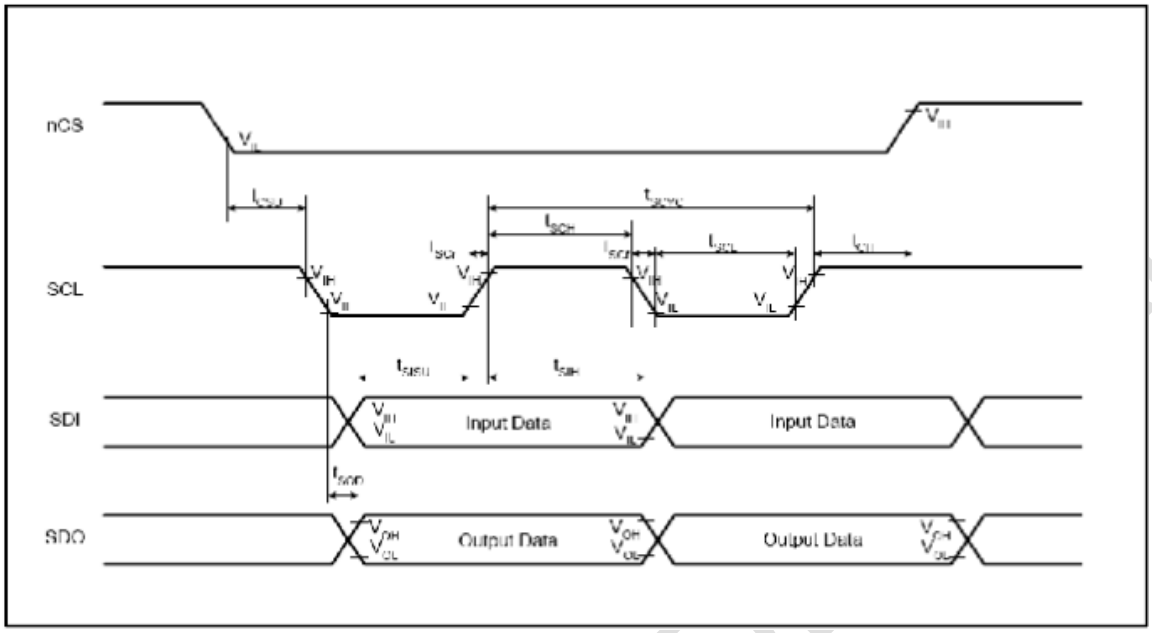
Low Power Mode：

Parameter	Description	Min	Typ	Max	Unit	Notes
$T_{LPX(M)}$	Transmitted length of any Low-Power state period of MCU to display module	50		**150**	ns	1,2
$T_{TA-SURE(M)}$	Time that the display module waits after the LP-10 state before transmitting the Bridge state (LP-00) during a Link Turnaround.	$T_{LPX(M)}$		$2*T_{LPX(M)}$	ns	2
$T_{LPX(D)}$	Transmitted length of any Low-Power state period of display module to MCU	50		**150**	ns	1,2
$T_{TA-GET(D)}$	Time that the display module drives the Bridge state (LP-00) after accepting control during a Link Turnaround.		$5*T_{LPX(D)}$		ns	2
$T_{TA-GO(D)}$	Time that the display module drives the Bridge state (LP-00) before releasing control during a Link Turnaround.		$4*T_{LPX(D)}$		ns	2
$T_{TA-SURE(D)}$	Time that the MPU waits after the LP-10 state before transmitting the Bridge state (LP-00) during a Link Turnaround.	$T_{LPX(D)}$		$2*T_{LPX(D)}$	ns	2

Note1: TLPX is an internal state machine timing reference .Externally measured values may differ slightly from the specified values due to asymmetrical rise and fall times.

Note2: Transmitter-specific parameter.

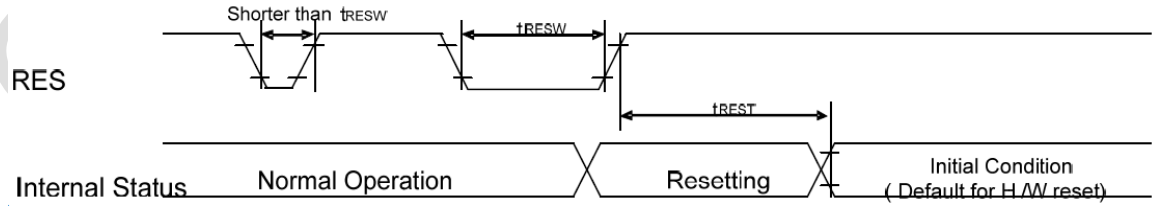
5.2 Serial Interface Characteristics



Signal	Symbol	Parameter	MIN	MAX	Unit	Description
SCL	T_{SCYC}	Clock cycle (Write)	100		ns	-
	T_{SCYC}	Clock cycle (Read)	300		ns	
	T_{SCH}	Clock "H" pulse width (Write)	40		ns	
	T_{SCH}	Clock "H" pulse width (Read)	140		ns	
	T_{SCL}	Clock "L" pulse width (Write)	40		ns	
	T_{SCL}	Clock "L" pulse width (Read)	140		ns	
	T_{SCr}	Clock rise time		5	ns	
	T_{SCf}	Clock fall time		5	ns	
nCS	T_{CSU}	Chip select setup time	20		ns	-
	T_{CH}	Chip select hold time	50		ns	
SDI	T_{SISU}	Data input setup time	20		ns	-
	T_{SIH}	Data input hold time	20		ns	
SDO	T_{SOD}	Data output setup time		120	ns	-
	T_{SOH}	Data output hold time	5		ns	

5.3 Display Reset Timing Characteristics

Reset input timing:



VDDIO=1.65 to 3.3V, VDD=2.7 to 3.6V, AGND=DGND=0V, Ta=-40 to 85℃

Timing Parameters

Symbol	Parameter	Related Pins	MIN	TYP	MAX	Note	Unit
t_{RESW}	*1) Reset low pulse width	RESX	10	-	-	-	μs
t_{REST}	*2) Reset complete time	-	-	-	5	When reset applied during Sleep in mode	ms
		-		-	120	When reset applied during Sleep out mode	ms

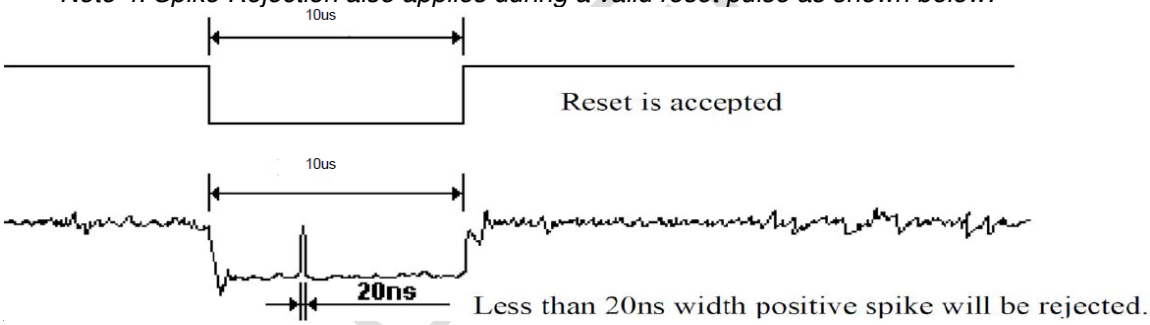
Note 1. Spike caused by an electrostatic discharge on RESX line does not cause irregular system reset according to the table below.

RESX Pulse	Action
Shorter than 5μs	Reset Rejected
Longer than 10μs	Reset
Between 5μs and 10μs	Reset starts (It depends on voltage and temperature condition.)

Note 2. During the resetting period, the display will be blank (The display is entering blanking sequence, whose maximum time is 120 ms, when Reset Starts in Sleep Out –mode. The display remains blank in Sleep In –mode) and then return to Default condition for H/W reset.

Note 3. During Reset Complete Time, data in OTP will be latched to internal register during this period. This loading is done every time when there is H/W reset complete time (tREST) within 5ms after a rising edge of RESX.

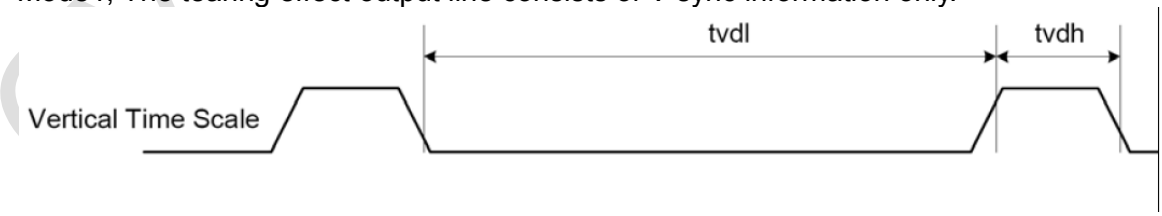
Note 4. Spike Rejection also applies during a valid reset pulse as shown below:



Note 5. It is necessary to wait 5msec after releasing RESX before sending commands. Also Sleep Out command cannot be sent for 120msec.

5.4 TE Timing Characteristics

Mode1, The tearing effect output line consists of V-sync information only.

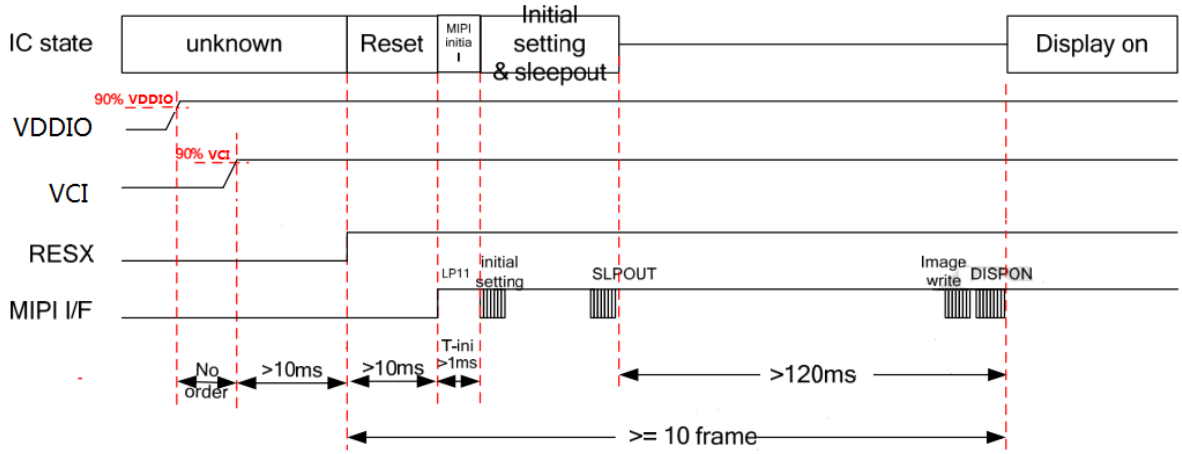


tvdh = The LCD display is not updated from the frame memory.
tvdl = The LCD display is updated from the frame memory.

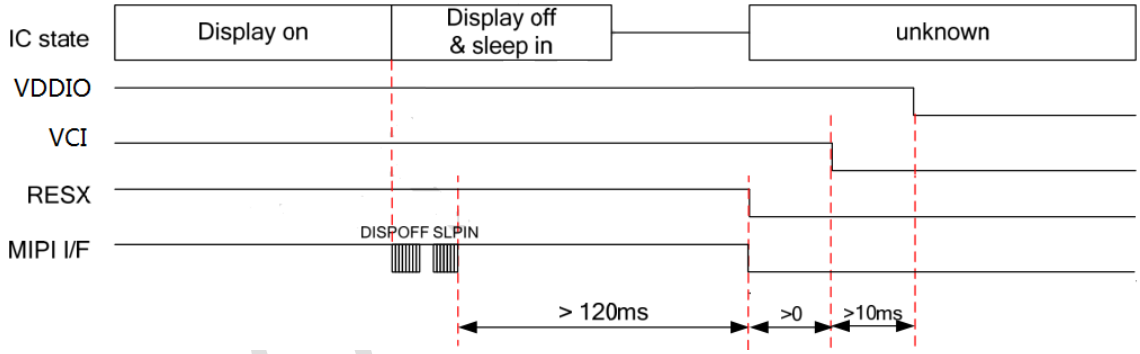
6 Recommended Operating Sequence

6.1 Display Power on / off Sequence

6.1.1 Power On Sequence



6.1.2 Power Off Sequence



6.2 Display Initial code

TBD

6.3 Brightness control

Inst/Para	R/W	Address		Date Type	Description
		SPI	Other		
BRTCTRL	W	51h	5100h	Hex	Value form 0~255(FF)

7 Application Circuit

TBD

8 Optical Characteristics Optical Specification

Item		Symbol	Condition	Min	Typ	Max	Unit	Remark
View Angle		θT	CR≥10	80			Degree	Note 2 Test Equipment：CS2000A
		θB		80				
		θL		80				
		θR		80				
Contrast Ratio		CR	θ=0°	10000				Note1 Note3 Test Equipment：CS2000A
Response Time		T_{ON}	25℃			4	ms	Note1 Note4 Test Equipment：Admesy MSE
		T_{OFF}						
Chromaticity	White	x		(0.280)	(0.300)	(0.320)		Test Equipment：CS2000A Note: Chromaticity can be modified according to customer demand
		y		(0.290)	(0.310)	(0.330)		
	Red	x		(0.630)	(0.670)	(0.710)		
		y		(0.300)	(0.330)	(0.360)		
	Green	x		(0.170)	(0.220)	(0.270)		
		y		(0.660)	(0.710)	(0.760)		
	Blue	x		(0.100)	(0.140)	(0.180)		
		y		(0.020)	(0.060)	(0.100)		
Uniformity		U		75			%	Note1 Note6 Test Equipment：CS2000A
NTSC				85	100		%	Note5
Luminance		L		300	350		Cd/m^2	Note1 Note7 Test Equipment：CS2000A
Cross-talk						3	%	Note8 L≤350nits Test Equipment：CS2000A
Gamma				1.9	2.2	2.5		Gamma=2.2±0.3（L≤

							350nits）； Gamma Self-adjustment (L＞350nits) Test Equipment：CS2000A

Test Conditions:

1. the ambient temperature is 25℃.
2. The test systems refer to Note1 and Note2.

Note 1: Definition of optical measurement system.

The optical characteristics should be measured in dark room. The optical properties are measured at the center point of the AMOLED screen. All input terminals AMOLED panel must be ground when measuring the center area of the panel.

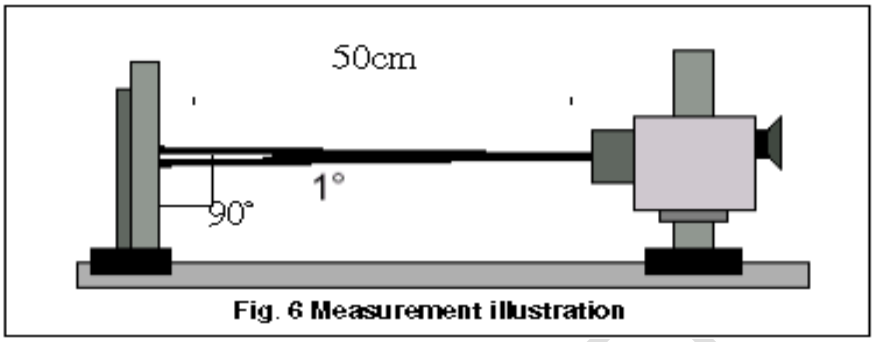


Fig. 6 Measurement illustration

Note 2: Definition of viewing angle range and measurement system.

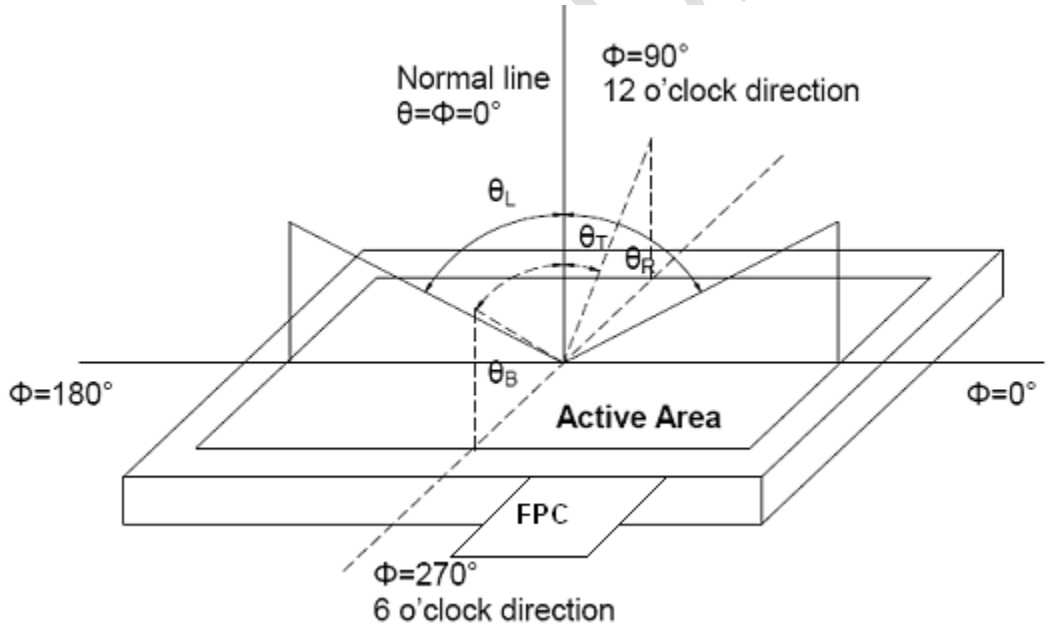


Fig. 1 Definition of viewing angle

Note 3: Definition of contrast ratio

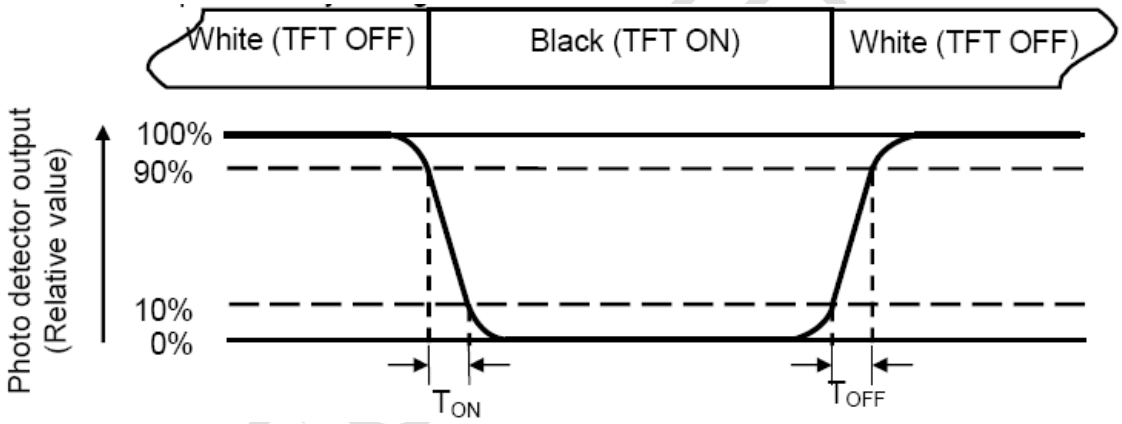
$$\text{Contrast ratio(CR)} = \frac{\text{Luminance measured when LCD is on the "white" state}}{\text{Luminance measured when LCD is on the "Black" state}}$$

“White state “: A state where the AMOLED should be driven by Vwhite.

“Black state”: A state where the AMOLED should be driven by Vblack.

Note 4: Definition of response time

The response time is defined as the AMOLED optical switching time interval between “White” state and “Black” state. Rise time (T_{ON}) is the time between photo detector output intensity changing from 90% to 10%. And fall time (T_{OFF}) is the time between photo detector output intensity changing from 10% to 90%.



Note 5: Definition of color chromaticity (CIE1931)

Color coordinates measured at center point of AMOLED.

Note 6: Definition of luminance uniformity

Active area is divided into 5 measuring area (refer to Fig.2).

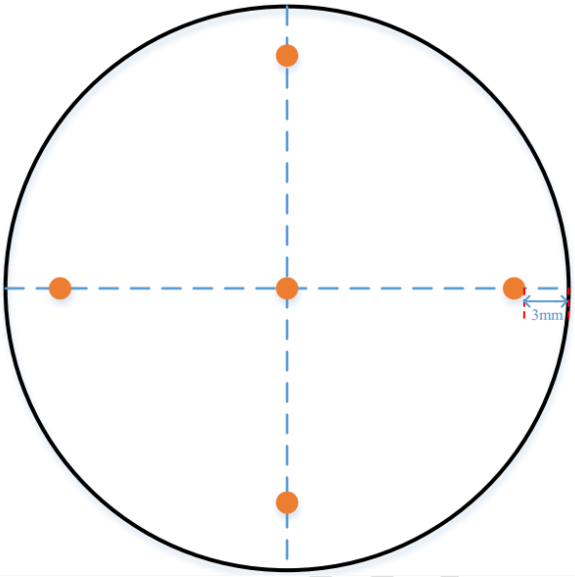


Fig. 2 Definition of uniformity

Luminance Uniformity(U) = Lmin/ Lmax.

Lmax: The measured maximum luminance of all measurement position.

Lmin: The measured minimum luminance of all measurement position.

Note 7: Definition of luminance:

Measure the luminance of white state at center point.

Note 8: Cross Talk

A. Measure luminance at the position, P0.

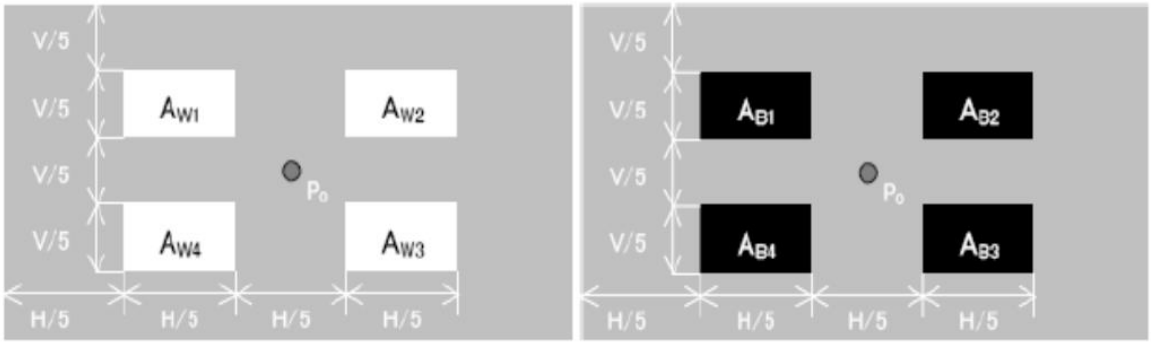
B. Calculate cross talk as below equation.

$$L_{W\_OFF} = \frac{L_{W1} + L_{W2} + L_{W3} + L_{W4}}{4}$$

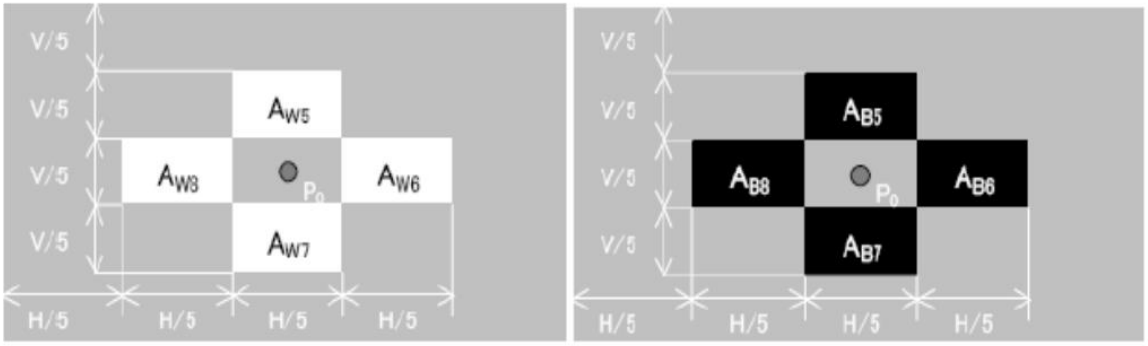
$$L_{B\_OFF} = \frac{L_{B1} + L_{B2} + L_{B3} + L_{B4}}{4}$$

$$crosstalk = \frac{|L_{Wi\_ON} - L_{W\_OFF}|}{L_{W\_OFF}} \times 100\% \qquad (i = 5 \text{ to } 8)$$

$$crosstalk = \frac{|L_{Bi\_ON} - L_{B\_OFF}|}{L_{B\_OFF}} \times 100\% \qquad (i = 5 \text{ to } 8)$$

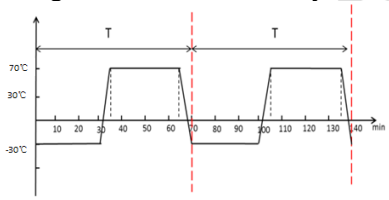


(a) L_{W_OFF}, L_{B_OFF} measuring pattern



(b) L_{W_ON}, L_{B_ON} measuring pattern

9 Environmental / Reliability Test

No	Test Item	Condition	Remark
1	High Temperature Operation	+60℃, 240hrs	IEC60068-2-2,GB2423.2
2	Low Temperature Operation	-20℃, 240hrs	IEC60068-2-1 GB2423.1
3	High Temperature Storage	+70℃, 240hrs	IEC60068-2-2 GB2423.2
4	Low Temperature Storage	-30℃, 240hrs	IEC60068-2-1 GB2423.1
5	High Temperature & High Humidity Operation	60℃, 90% RH,240hrs	IEC60068-2-78 GB/T2423.3
6	Thermal Shock (Non-operation)	-30℃(30 min)~+70℃(30 min), Change time:5min, 100 Cycles 	Start with cold temperature, End with high temperature, IEC60068-2-14,GB2423.22
7	Electro Static Discharge (Operation)	C=150pF, R=330Ω，5points/panel Air:±8KV, 5times; Contact:±4KV, 5 times; (Environment: 15℃~35℃, 30%~60%, 86Kpa~106Kpa).	IEC61000-4-2 GB/T17626.2
8	Package Drop Test	1 corner, 3 edges, 6 surfaces Drop height:760mm	IEC60068-2-32 GB/T2423.8
9	Package Vibration Test	Random Vibration: 1.15Grms, 1~200Hz, Random, 30mins/ (X，Y，Z) axis	IEC60068-2-34 GB/T2423.11

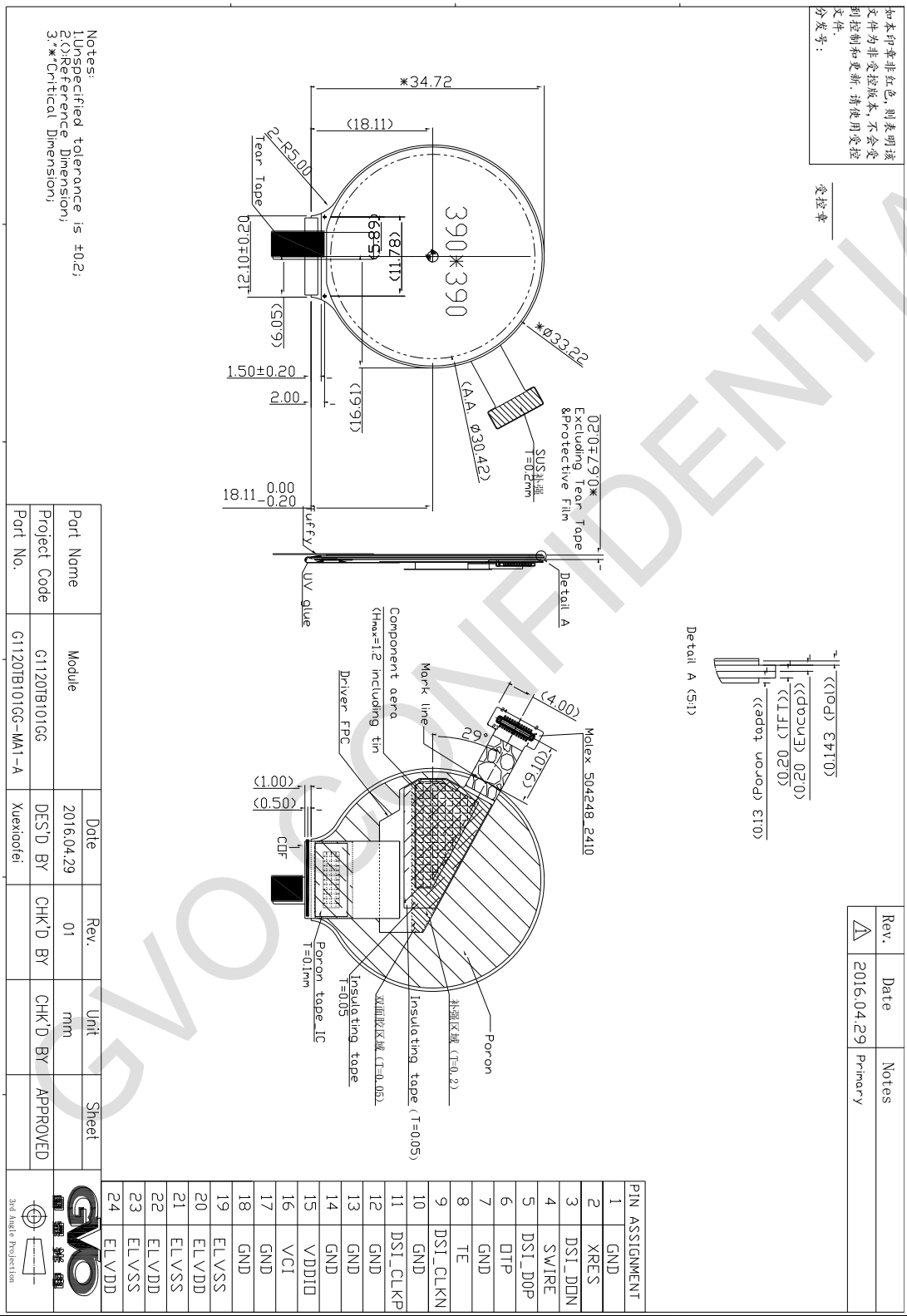
10 Quality Level

No.	Item	Area	Criterion of Defect				Defect type
1	Dot Defect	AA	Type	DS		Acceptable number	
			Bright Dot	≥10mm		0	Minor
			Dark Dot	≥10mm		2	
2	No Display	AA	/			Not allowed	Major
3	Abnormal Display	AA	/			Not allowed	Major
4	Normally white	AA	/			Not allowed	Major
5	Line Defect	AA	single line	Bright line		Not allowed	Major
				Dark line		Not allowed	
			Multiple lines	Bright line		Not allowed	
				Dark line		Not allowed	
			Half-Line	Bright line		Not allowed	
				Dark line		Not allowed	
6	Edge/Side breakage	OA	The following Criterion is applicable to any side（unit：mm）				Minor
			Z	X	Y	Acceptable number	
			≤ T	≤2.0	not extended to circuit Area or Frit	＜5	
7	Sawtooth	OA	W（mm）			Acceptable number	
			W≤0.1			Ignore	
			W＞0.1			Not allowed	
8	Glass crack	AA、OA	/			Not allowed	Major
9	Panel Scratch	AA	W（mm）	L（mm）	DS（mm）	Acceptable number	Minor
			W≤0.03	L＜5.0	≥10	Ignore	
			0.03＜W≤0.05	L≤2.0	≥10	Ignore	
				2.0＜	≥10	2	

				L≤5.0			
			0.05＜W	-	0	0	
				L>5.0	0	0	
		GA、FA、OA	W（mm）	L（mm）	DS（mm）	Acceptable number	Minor
			W≤0.03	Ignore	≥10	Ignore	
			0.03＜W≤0.05	L≤2.0	≥10	Ignore	
				2.0＜L≤5.0	≥10	2	
			0.05＜W	-	0	0	
				L>5.0	0	0	
		Circuit Area of OA	/			Not allowed	
10	Frit Encapsulation	FA	The width of frit should be well-distributed. Frit should not have bubble or breakage.				Minor
11	Raised point	Whole area	/			Not allowed	Major
12	Concave dot、Black and white dot、Polarizer Dent/Bubble	AA	Front（Encap surface）	D（mm）	DS（mm）	Acceptable number	Minor
				D≤0.20	≥10	Ignore	
				0.20＜D≤0.50	≥10	2	
				0.50＜D	≥10	0	
			Rear（LTPS surface）	/	/	Ignore	
13	Polarizer Scratch/ Fiber(Linear)	AA	W（mm）	L（mm）	DS	Acceptable number	Minor
			W≤0.03	Ignore	≥10	Ignore	
			0.03＜W≤0.05	L≤2.0	≥10	Ignore	
				2.0＜L≤5.0	≥10	2	
			0.05＜W	-	≥10	0	
				L>5.0	≥10	0	
14	Panel dirt	AA	/	/	/	Not allowed	Minor
15	UV	Not IC side	Over coating			Not allowed	Minor
		IC side	The coating of IC side is not higher than POL.				
16	Tuffy glue	IC and FPC bonding area	The coating should not have breakage or Bubble.				Major
			The coating is not higher than POL.				Minor
		Other area	Tuffy glue is not allowed to interrupt and the diameter of Bubble is not more than 0.5mm.				

			The coating is not higher than POL.	
		IC	Tuffy glue should cover IC completely .	
		FPC	Ribbon glue: the width is not more than 1mm. Dot glue: the diameter is not more than 2mm.	
17	FPCA	FPC	Capacitance and inductance can not reverse polarity.	Major
			No wrong insertion	Major
			FPC should not have serious crease which causes the line, prick and spots damage. Scratch is not allowed if Cu layer is exposed.	Minor
			The gold fingers should not be oxidized, scraped, folded, impressed, broken, spotted or off-position.	Major
			Make sure FPC is not scalded, with its location holes not having deficiency or obviously shift.	Major
			The component of FPC should be the same as BOM list.	Major
			No remaining soldering Sn	Major
			No visual particle on the pad line	Minor
18	FPCA Tilt Defect	Bonding area	Not allowed	Major
19	Package	other	Products should put into the anti-static trays, with non-overlapping, and the trays should be staggered placed.	Minor
			Different products can not be mixed into the same inner package.	
			The package should not have obvious deformation or breakage .The printing labels type and quantity are correct.	
			The package should have QC signature. ROHS label is needed if the product is under ROHS control.	

11 Mechanical Drawing



Rev.	Date	Notes
1	2016.04.29	Primary

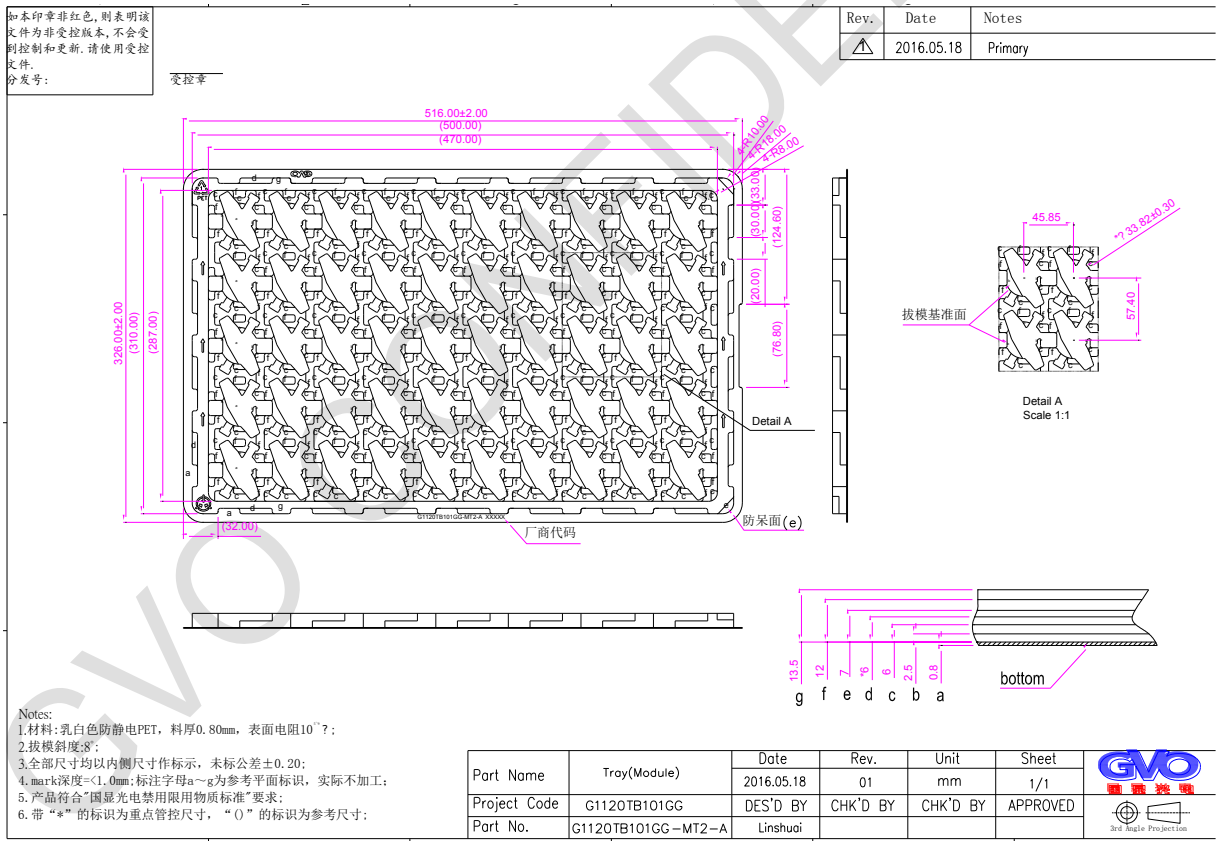
Part Name	Module		Date
Project Code	G1120TB101GG	DES'D BY	2016.04.29
Part No.	G1120TB101GG-MA1-A	Xuexiaofei	

	Rev.	Unit	Sheet
CHK'D BY	01	mm	
CHK'D BY			
APPROVED			

PIN	ASSIGNMENT
1	GND
2	XRES
3	DSI_DON
4	SWIRE
5	DSI_DOP
6	DTP
7	GND
8	TE
9	DSI_CLKN
10	GND
11	DSI_CLKP
12	GND
13	GND
14	GND
15	VDDIO
16	VCI
17	GND
18	GND
19	ELVSS
20	ELVDD
21	ELVSS
22	ELVDD
23	ELVSS
24	ELVDD

Packing Drawing

Packing Condition	Contents
Packing Type	TRAY + Carton packing type
TRAY material model	tray (10^5~$10^9\Omega$)
Tray packing type	See the picture 1
Number of panels per tray	50 pieces
Number of Tray per carton	19units ((18 units + 1 empty)PET tray)
Number of panels per carton	900 pieces



Picture 1

12 Precautions for Use of AMOLED Modules

12.1 Handling Precautions:

12.1.1 The display panel is made of glass. Do not subject it to a mechanical shock by dropping it from height.

12.1.2 Do not press down the screen or the adjoining areas too hard because the color tone may be shifted.

12.1.3 The polarizer covering the display surface of the AMOLED module is soft and easily scratched. Handle this polarizer carefully.

12.1.4 If the display surface is contaminated, blow on the surface and gently wipe it with a soft dry cloth. If it is still not completely clear, moisten the cloth with ethyl alcohol.

12.1.5 Solvents may damage the polarizer. Do not use water, ketone or aromatic solvents except ethyl alcohol.
Do not attempt to disassemble the AMOLED Module.

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

12.1.7 To prevent destruction from static electricity, be careful to maintain an optimum working environment.

12.1.8 Be sure to make yourself in contact with the ground when handling with the AMOLED Modules.

12.1.9 Tools required for assembly, such as soldering irons, must be properly ground.

12.1.10 To reduce the generation of static electricity, do not conduct assembly or other work under dry conditions.

12.1.11 To protect the display surface, the AMOLED Module is coated with a film. Be careful when peeling off this protective film, because static electricity may generate.

12.2 Storage Precautions:

12.2.1 When storing the AMOLED modules, be sure that they are not directly exposed to the sunlight or the light of fluorescent lamps.

12.2.2 The AMOLED modules should be stored under the storage temperature range. If the AMOLED modules will be stored for a long time, the recommended condition is:
Temperature: 0℃~40℃ Relatively humidity: ≤80%

12.2.3 The AMOLED modules should be stored in the room without acid, alkali or harmful gas.

12.3 Transportation Precautions:

12.3.1 The AMOLED modules should not be suffered from falling and violent shocking during transportation. Besides, excessive press, water, damp and sunshine, should be avoided.