



APPROVAL SHEET

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版本: V1.0

Customer 客户名称	
Part NO. 产品型号	FL4037-01
Product type 产品内容	Mode: Transmissive type .Normally Black. TFT LCD Module LCD Module: Graphic 480RGB*800Dot-matrix
Remarks 备注栏	☐ APPROVAL FOR SEPCIFICATIONS ONLY ☒ APPROVAL FOR SEPCIFICATIONS AND SAMPLE

本公司确认

核准	审核	定制

客户确认

核准	审核	审核



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"aGENERAL INFORMATION

Item	Contents	Unit
Driver element	a-Si TFT active matrix	---
Viewing direction	ALL ' CLOCK (IPS MODE)	O' Clock
TP V/A (W × H)	---	mm
Active area (W×H)	51.84X86.4mm	mm
Number of Dots	480(RGB)×800	Pixel
Driver IC	ST7701S	---
Colors	16.7M	---
Weight	TBD	g
Backlight Type	LED	---
Interface Type	MIPI	---



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Input voltage	2.8	V
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"aABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min	Max	Unit
Supply voltage for logic	V _{DD}	-0.3	3.3	V
Input voltage	V _{IN}	-0.3	V _{DD} +0.3	V
Operating temperature	T _{OP}	-20	70	°C
Storage temperature	T _{ST}	-30	80	°C
Humidity	RH		90% (Max60°C)	RH

"aELECTRICAL CHARACTERISTICS

DC CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Unit
Supply voltage for logic	V _{DD}	2.5	—	3.3	V
Input Current	I _{dd}	—	2.08	3.26	mA
Supply voltage for I/O circuit	I _{OVCC}	1.65	—	3.3	V
Input voltage ' H ' level	V _{IH}	0.7 I _{OVCC}	—	—	V
Input voltage ' L ' level	V _{IL}	—	—	0.3 I _{OVCC}	V
Output voltage ' H ' level	V _{OH}	0.8 I _{OVCC}	—	—	V
Output voltage ' L ' level	V _{OL}	—	—	0.2 I _{OVCC}	V

"aTIMING OF POWER SUPPLY

PLEASE REFER TO THE DRIVER IC SPECIFICATION.

BACKLIGHT CHARACTERISTICS

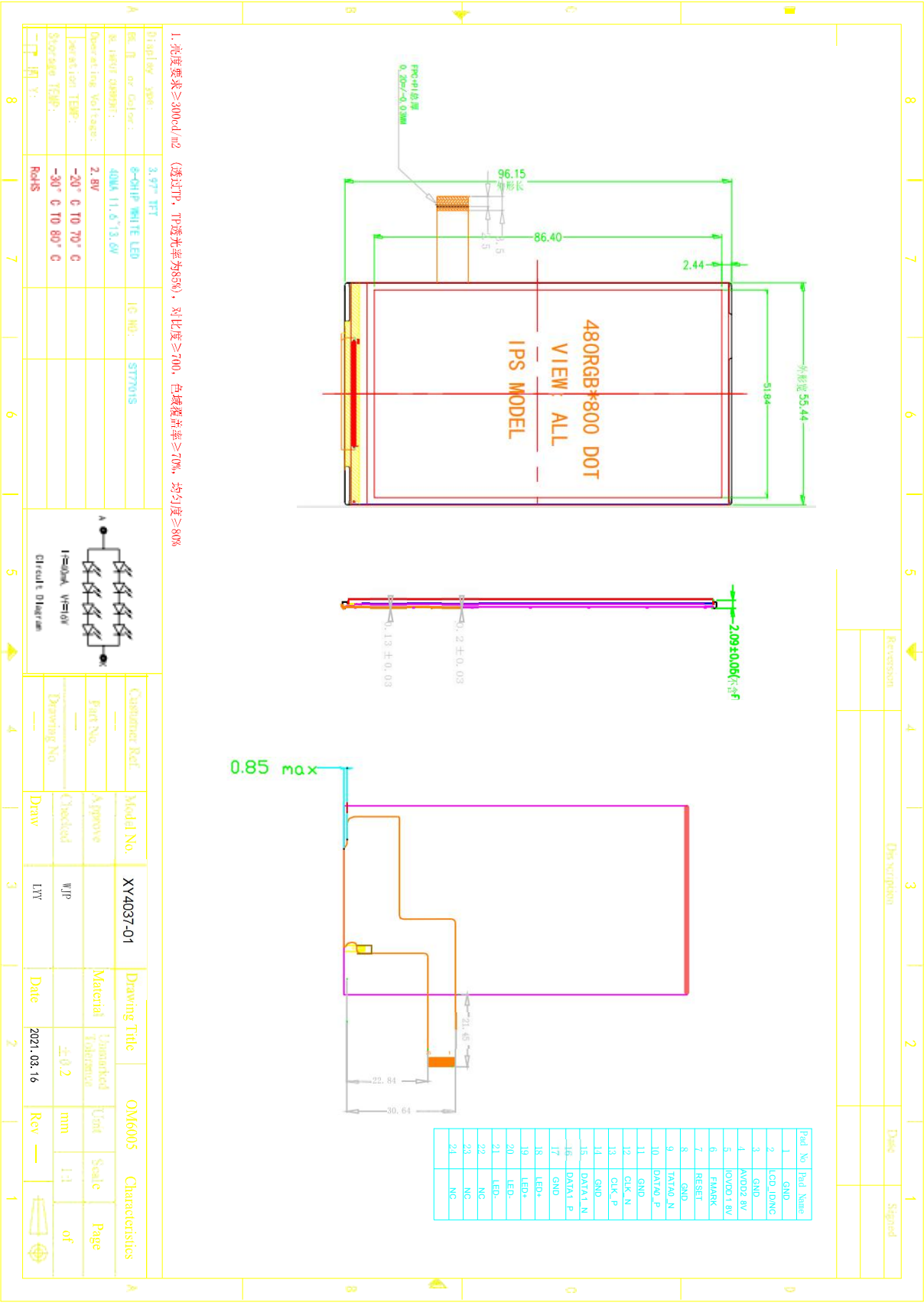
Item	Symbol	Min	Typ	Max	Unit	Condition
Forward voltage	V _f	11.2	12.8	14.0	V	I _f =40 mA
Luminance	L _v	350	—	—	cd/m ²	
Number of LED		8			Piece	—
Connection mode	S&P	S&P			—	—



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"aEXTERNAL DIMENSIONS





"aINTERFACE SIGNAL:

Pin NO.	PIN NAME	DESCRIPTION
1	GND	Ground power.
2	LCD_ID	LCD ID.
3	GND	Ground power.
4	AVDD2.8V	Power supply for system.
5	IOVDD1.8V	Power supply for system.
6	FMARK	Frame head pulse signal.
7	RESET	This signal will reset the device and must be applied to properly initialize the chip. The signal is active Low.
8	GND	Ground power.
9	DATA0_N	Negative data signal line
10	DATA0_P	Positive data signal line
11	GND	Ground power.
12	CLK_N	These pins are DS-CLK differential clock signals if Mipi.
13	CLK_P	These pins are DS-CLK differential clock signals if Mipi.
14	GND	Ground power.
15	DATA1_N	Negative data signal line
16	DATA1_P	Positive data signal line
17	GND	Ground power.
18	LED+	Backlight input pin
19	LED+	Backlight input pin
20	LED-	Backlight input pin
21	LED-	Backlight input pin
22~25	NC	NO connection Pin

"a APPLICATION CIRCUIT

Please consult our technical department for detail information.

INITIAL CODE



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"a" ELECTRO-OPTICAL CHARACTERISTICS

Item		Symbol	Condition	Min	Typ	Max	Unit	Remark	Note
Response time		Tr+Tf	$\theta=0^\circ$ $\phi=0^\circ$ Ta=25°C	—	30	—	ms	FIG 1.	4
Contrast ratio		Cr		—	300	—	—	FIG 2.	1
Luminance uniformity		δ WHITE		80	—	—	%	FIG 2.	3
Surface Luminance		Lv		180	—	—	cd/m ²	FIG 2.	2
Viewing angle range		θ	$\phi=90^\circ$	—	30	—	deg	FIG 3.	6
			$\phi=270^\circ$	—	30	—	deg	FIG 3.	
			$\phi=0^\circ$	—	45	—	deg	FIG 3.	
			$\phi=180^\circ$	—	45	—	deg	FIG 3.	
CIE(x, y) chromaticity	Red	x	$\theta=0^\circ$ $\phi=0^\circ$ Ta=25°C	0.633	0.653	0.673	—	FIG 2.	5
		y		0.310	0.330	0.350			
	Green	x		0.296	0.316	0.336			
		y		0.556	0.576	0.596			
	Blue	x		0.118	0.138	0.158			
		y		0.110	0.130	0.150			
	White	x		0.288	0.308	0.328			
		y		0.317	0.337	0.357			

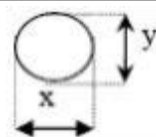
4. Standards of inspection items

4.1 Major Defect

Item No	Items to be inspected	Inspection Standard	Classification of defects
4.1.1	All functional defects	1.No display 2.Display abnormally 3.Missing vertical, horizontal segment 4.Short circuit 5. Back-light no lighting, flickering and abnormal lighting.	Major
4.1.2	Missing	Missing component	
4.1.3	Outline dimension	Overall outline dimension beyond the drawing is not allowed.	
4.1.4	linearity	No more than 1.5%	

4.2 Cosmetic Defect

Item No	Items to be inspected	Inspection Standard	Classification of defects
4.21	Clear Spots Black and white Spot defect Pinhole,	For dark/white spot, size Φ is defined as $\Phi = \frac{(x + y)}{2}$	Minor
		1	
		Acceptable Qty	





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Foreign Particle, polarizer Dirt		A	B	C	Ignore	
	$\Phi \leq 0.15$	Ignore				
	$0.15 < \Phi \leq 0.20$	2				
	$0.20 < \Phi \leq 0.30$	1				
	$\Phi > 0.30$	0				
Clear Spots TP Dirt	2				Minor	
	Zone Size(mm)	Acceptable Qty				
		A	B	C		
	$\Phi \leq 0.15$	Ignore		Ignore		
	$0.15 < \Phi \leq 0.20$	2				
	$0.20 < \Phi \leq 0.30$	1				
	$\Phi > 0.30$	0				
Dim Spots Circle shaped and dim edged defects	3				Minor	
	Zone Size(mm)	Acceptable Qty				
		A	B	C		
	$\Phi \leq 0.2$	Ignore		Ignore		
	$0.20 < \Phi \leq 0.40$	2				
	$0.40 < \Phi \leq 0.60$	1				
	$\Phi > 0.60$	0				

4.2 Cosmetic Defect

Item No	Items to be inspected	Inspection Standard					Classification of defects
4.2.2	Line defect Black line, White line, Foreign material on polarizer	Size(mm)		Acceptable Qty			Minor
		L (Length)	W (Width)	Zone			
				A	B	C	
		Ignore	$W \leq 0.01$	Ignore		Ignore	
		$L \leq 3.0$	$0.01 < W \leq 0.03$	2			
		$L \leq 3.0$	$0.03 < W \leq 0.05$	1			
			$W > 0.05$	0			
	Foreign material on TP film	The line can be seen after mobile phone in the operating condition :					Minor
		Size(mm)		Acceptable Qty			
		L (Length)	W (Width)	Zone			
				A	B	C	
		Ignore	$W \leq 0.03$	Ignore		Ignore	
		$L \leq 5.0$	$0.03 < W \leq 0.05$	3			
			$W > 0.05$	0			

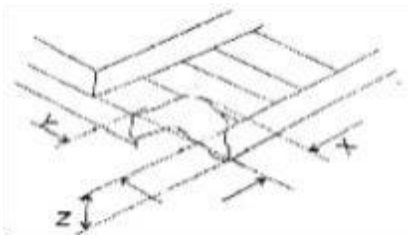
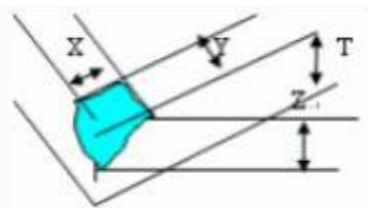


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4.2.3	Dim line defect Polarizer scratch TP film scratch	If the scratch can be seen after mobile phone cover assembling or in the operating condition, judge by the line defect of 4.2.2.					Minor
		If the scratch can be seen only in non-operating condition or some special angle, judge by the following.					
		Size(mm)		Acceptable Qty			
		L (Length)	W (Width)	Zone			
				A	B	C	
		Ignore	W≤0.03	Ignore		Ignore	
		5.0<L≤10.0	0.03<W≤0.05	2			
		L≤5.0	0.05<W≤0.08	1			
	W>0.08	0					

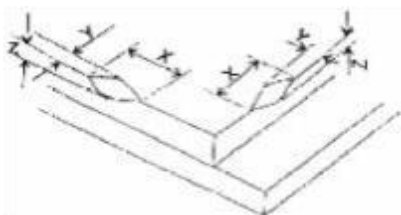
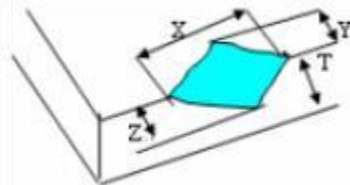
4.2.4	Polarize Air bubble	Air bubbles between glass & polarizer					Minor
		Zone	Acceptable Qty				
			A	B	C		
		Size(mm)			Ignore		
		Φ≤0.25	Ignore				
		0.25< Φ ≤0.5	2				
Φ >0.50	0						

Item No	Items to be inspected	Inspection Standard			Classification of defects
4.35	Glass defect	(i) Chips on corner A:LCD Glass defect			Minor
					
		X (mm)	Y (mm)	Z (mm)	
		≤2.0	≤S	Disregard	
		Notes : S=contact pad length Chips on the corner of terminal shall not be allowed to extend into the ITO pad or expose perimeter seal. B:TP Glass defect			
					
		X (mm)	Y (mm)	Z (mm)	
≤3.0	≤3.0	Disregard			



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		(ii) Usual surface cracks A: LCD Glass defect		
				
		X (mm)	Y (mm)	Z (mm)
		≤3.0	<Inner border line of the seal	Disregard
		B: TP Glass defect		
				
		X (mm)	Y (mm)	Z (mm)
		≤6.0	<2.0	Disregard
		(iii) Crack Cracks tend to break are not allowed.		
		