



深圳市勋瑞光电科技有限公司

Xunrui Shenzhen Optoelectronics Technology Co., Ltd.

TFT LCM Approval Sheet

承认书

版本: V1.0

Customer 客户名称	
Part NO. 产品型号	H030WH006T1
Product type 产品内容	Mode: Transmissive type .Normally white. TFT LCD Module LCD Module: Graphic 240RGB*400 Dot-matrix
Remarks 备注栏	<input type="checkbox"/> APPROVAL FOR SEPCIFICATIONS ONLY <input checked="" type="checkbox"/> APPROVAL FOR SEPCIFICATIONS AND SAMPLE

工程确认

核准	审核	定制

客户确认

核准	审核	审核



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❏ GENERAL INFORMATION

Item	Contents	Unit
Driver element	a-Si TFT active matrix	--
Viewing direction	12 O' CLOCK	O' Clock
TP V/A (W × H)	--	mm
Active area (W×H)	47.2 * 65.6	mm
Number of Dots	240(RGB)×400	Pixel
Driver IC	OTM4001	--
Colors	65K	--
Weight	TBD	g
Backlight Type	LED	--
Interface Type	Parallel	--
Input voltage	3.0	V

❏ ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min	Max	Unit
Supply voltage for logic	VDD	-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

✦ ELECTRICAL 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

✦ TIMING OF POWER SUPPLY

PLEASE REFER TO THE DRIVER IC SPECIFICATION.

✦ BACKLIGHT CHARACTERISTICS

Item	Symbol	Min	Typ	Max	Unit	Condition
Forward voltage	V _f	2.9	3.2	3.4	V	I _f =80 mA
Luminance	L _v	3600	—	—	cd/m ²	
Number of LED	—	4			Piece	—
Connection mode	p	Parallel			—	—

EXTERNAL DIMENSIONS



INTERFANCE SIGANL:

❏ **APPLICATION CIRCUIT**

❏ **INITIAL CODE**

Please consult our technical department for detail information.

❏ **ELECTRO-OPTICAL CHARACTERISTICS**

Item	Symbol	Condition	Min	Typ	Max	Unit	Remark	Note
Response time	Tr+Tf	$\theta = 0^\circ$ $\varnothing = 0^\circ$ 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	$\varnothing = 90^\circ$	-	30	-	deg	FIG 3.	6
		$\varnothing = 270^\circ$	-	30	-	deg	FIG 3.	
		$\varnothing = 0^\circ$	-	45	-	deg	FIG 3.	
		$\varnothing = 180^\circ$	-	45	-	deg	FIG 3.	
CIE(x, y) chromaticity	Red	$\theta = 0^\circ$ $\varnothing = 0^\circ$ Ta=25°C	x	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

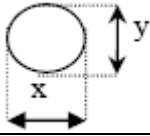
4.1 Major Defect

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, Foreign Particle, polarizer Dirt	For dark/white spot, size Φ is defined as $\Phi = \frac{x+y}{2}$ 			Minor	
		1				
		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				
	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					

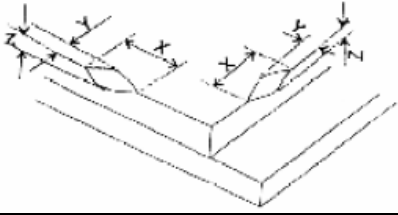
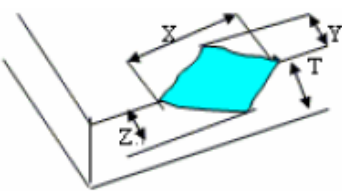


4.2.3	Dim line defect Polarizer scratch TP film scratch scratch	If the scratch can be seen after mobile phone cover assembling or in the operating condition, judge by the line defect of 4.2.2.					Minor
		If the scratch can be seen only in non-operating condition or some special angle, judge by the following.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

4.2.4	Polarize Air bubble	Air bubbles between glass & polarizer					Minor
		Size(mm)	Zone	Acceptable Qty			
				A	B	C	
		$\Phi \leq 0.25$	Ignore		Ignore		
		$0.25 < \Phi \leq 0.5$	2				
$\Phi > 0.50$	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		$\leq S$	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			
(ii) Usual surface cracks A:LCD Glass defect					



		
X (mm)	Y (mm)	Z (mm)
≤ 3.0	<Inner border line of the seal	Disregard
<p>B:TP Glass defect</p> 		
X (mm)	Y (mm)	Z (mm)
≤ 6.0	< 2.0	Disregard
<p>(iii) Crack Cracks tend to break are not allowed.</p> 