



Surenoo STP0320A1-240320 Series TFT LCD Panel User Manual

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Surenoo STP0320A1-240320 Series TFT LCD Panel



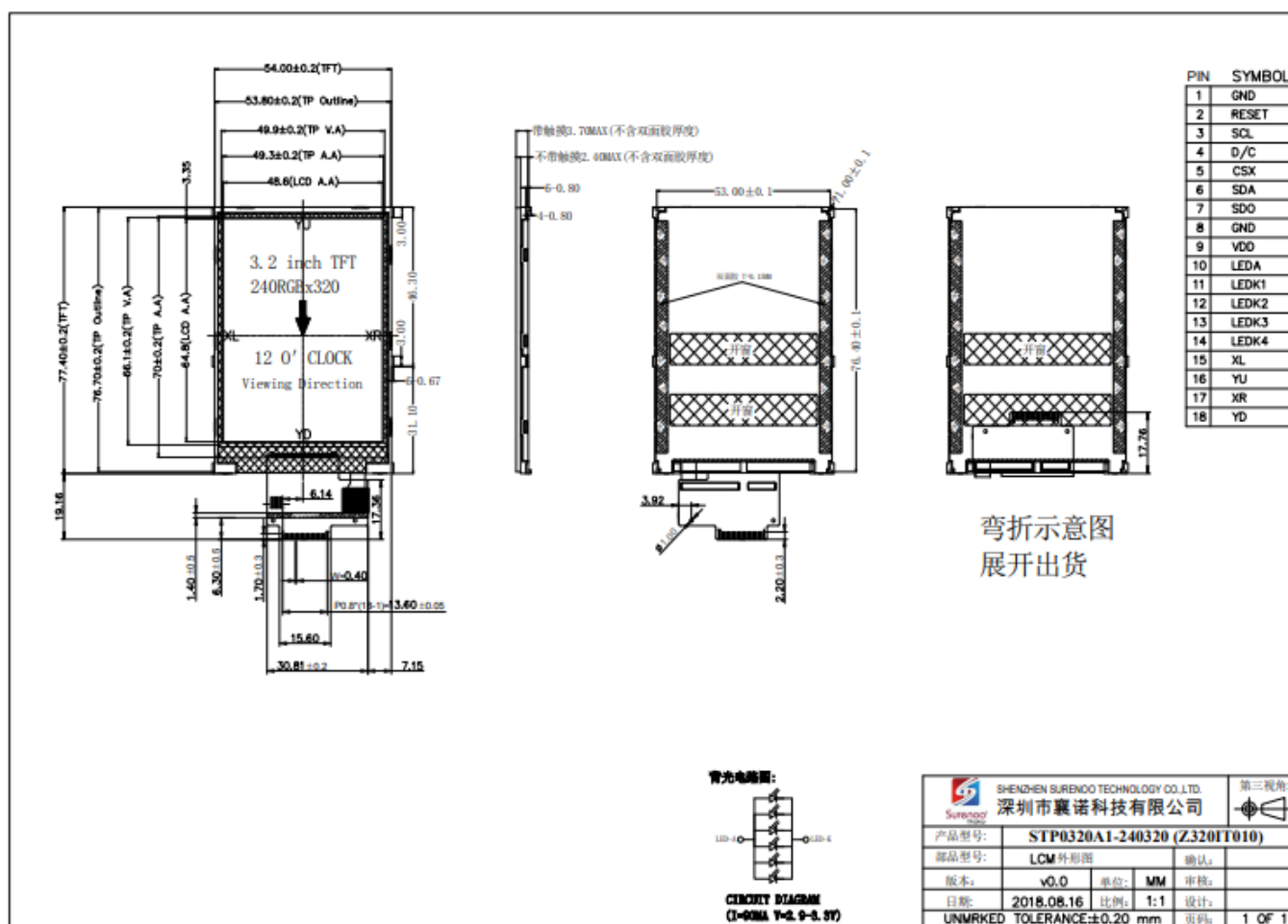
General Description

MODEL NO	STP0320A1-240320 (Z320IT010)
Display Mode	Transmissive
Display Format	Graphic 240RGB*320 Dot-matrix 240xRGBx320
Input Data	4 Line-SPI interface 4
Viewing Direction	12 o'clock 12
Drive	ILI9341V

Mechanical Specification

Item	Specifications	Unit
Dimensional outline	54.00(W)*77.40(H)*2.40(T) NTP 54.00(W)*77.40(H)*3.70(T) RTP (FPC not include)	mm
Resolution	240RGB*320	dots
LCD Active area	48.60(W)*64.80 (H)	mm
Pixel size	0.2025(W)*0.2025(H)	mm

Mechanical Dimension



NOTES:

1. DISPLAY TYPE:TFT
2. OPERATING TEMP: -20°C~70°C
3. STORAGE TEMP: -30°C~80°C
4. LCD DRIVER: COG(IC:ILI9341V);
5. BACKLIGHT: 6 CHIP-WHITE LED(Parellel)
6. GENERAL TOLERANCE:±0.20
7. ROHS

Electrical Maximum Ratings

Item	Symbol	Min	Max	Unit	Note
Supply voltage VDDI	V	1.8	3.3	V	–
Supply voltage VDD	V	2.8	3.3	V	–
Operating temperature	TOPR	–20	70	°C	–
Storage temperature	TSTR	–30	80	°C	–

NOTE: VDDI VDD 2.8V~3.3V

Brightness characteristic&Power dissipation

Item	Symbol	Min	Typical	Max	Unit
LED module Forward voltage	VLED	2.9	3.1	3.3	V
LED module current	ILED	–	90	–	mA
LCD Surface Luminance	LS	330	350	–	Cd/m2
LCM Surface brightness uniform	LD	80	–	–	%
LCD power dissipation	PLCD	–	0.32	–	W

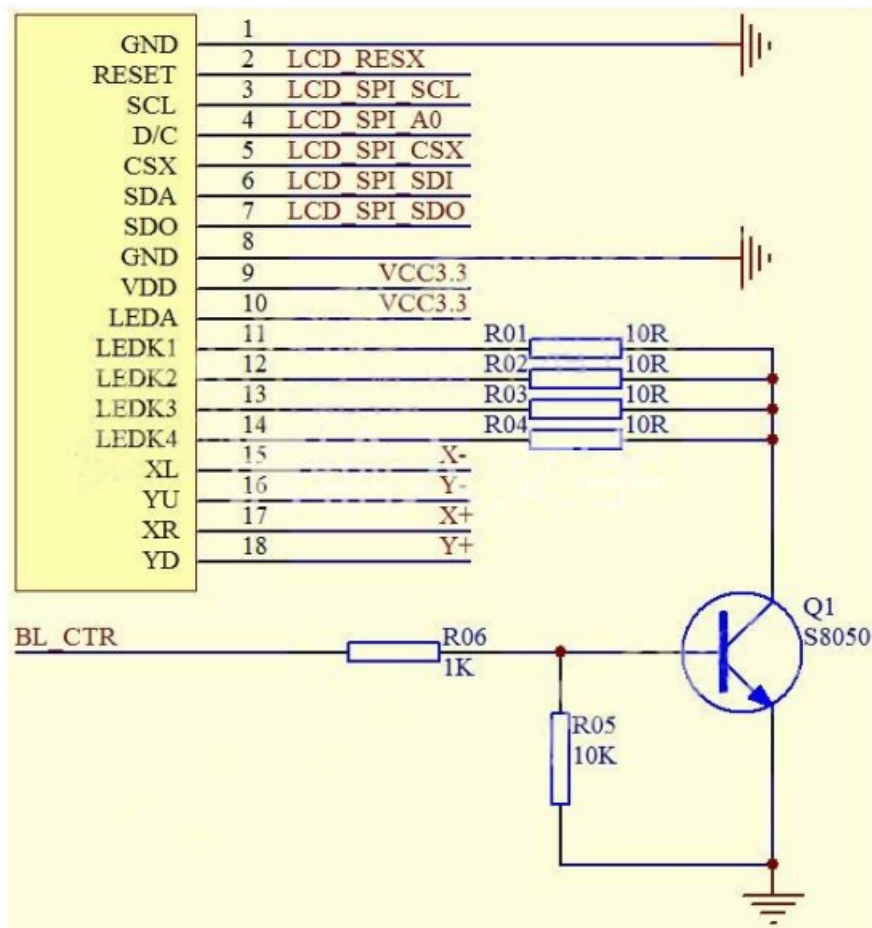
NOTE: PLCD=VDD * (ILED+ILCD)

Module Function Description

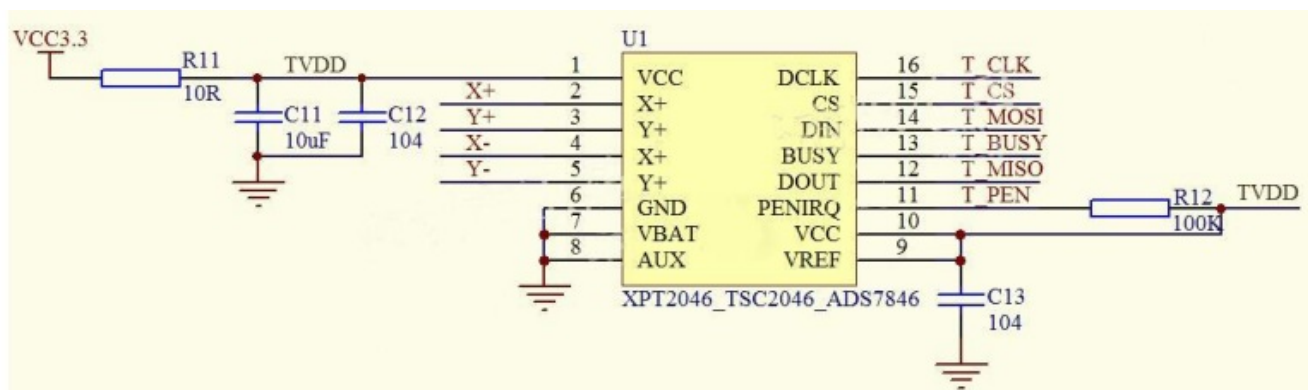
PIN No.	Symbol	Description	Notes
1	GND	Ground	–
2	RESET	-This signal will reset the device and it must be applied to properly initialize the chip. -Signal is active low.	–
3	SCL	-This pin is used to be serial interface clock.	–
4	D/C	– Display data/command selection pin in 4-line serial interface.	–
5	CSX	-Chip selection pin Low enable. High disable.	–
6	SDA	SPI interface input pin. -The data is latched on the rising edge of the SCL signal. -If not used, please fix this pin at VDDI or DGND level. 4-SPIVDDI GND	–
7	SDO	-SPI interface output pin. -The data is output on the falling edge of the SCL signal. -If not used, let this pin open.	–
8	GND	Ground	–

9	VDD	Power Supply for Analog, Digital System and Booster Circuit. 2.8-3.3V)	—
10	LEDA	Anode of Backlight (2.9V-3.3V Typical:3.1V)	—
11	LEDK1	Cathode of Backlight	—
12	LEDK2	Cathode of Backlight	—
13	LEDK3	Cathode of Backlight	—
14	LEDK4	Cathode of Backlight	—
15	XL	Touch panel Logical foot	—
16	YU	Touch panel Logical foot	—
17	XR	Touch panel Logical foot	—
18	YD	Touch panel Logical foot	—

6.1 STP0320A1 4 -SPI



6-2

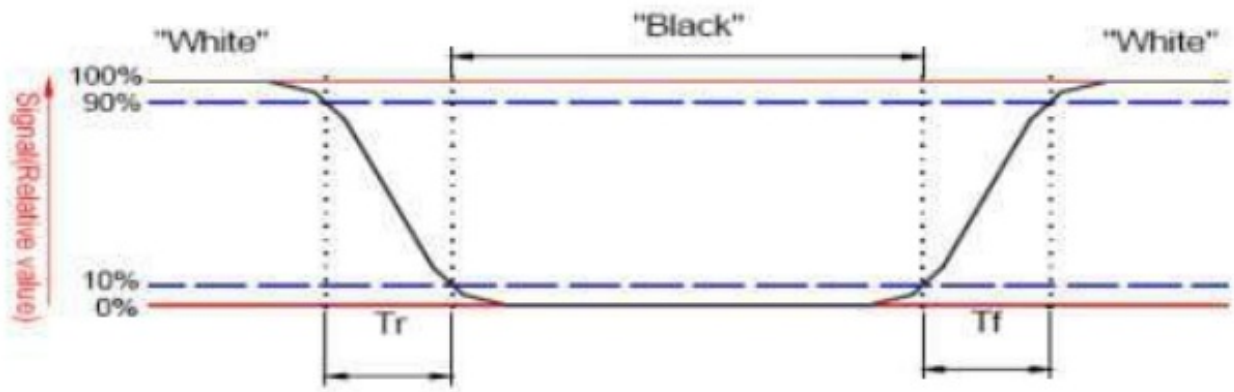


NOTE:

1. 6-1 XLYUXRYD
2. 6-2

Response time&Contrast ratio

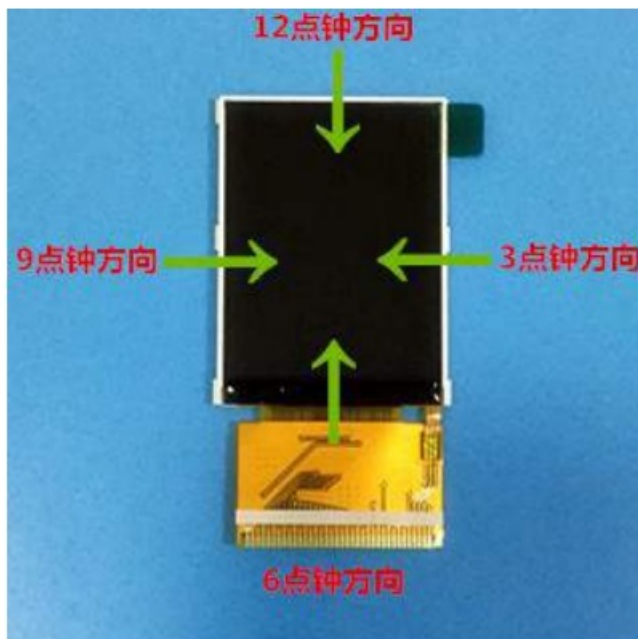
Item	Symbol	Condition	Remark			Unit
			Min.	Typ.	Max.	
Response time	Tr+Tf	$\theta=0^\circ$	—	25	40	ms
Contrast ratio	CR	$\theta=0^\circ$	350	500	—	—



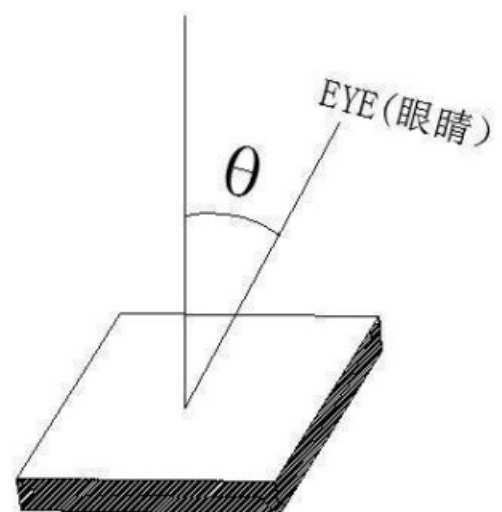
$$\text{Contrast ratio (CR)} = \frac{\text{Brightness on the "white" state}}{\text{Brightness on the "black" state}}$$

Viewing Angle

Item	Symbol	Condition	Remark			Unit
			Min.	Typ.	Max.	
Viewing angle	Top	CR≥10	40	50	—	Deg.
	Bottom	CR≥10	55	65	—	
	Left	CR≥10	55	65	—	
	Right	CR≥10	55	65	—	



垂直于屏表面



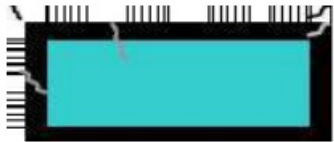
NOTE:3 6 9 12

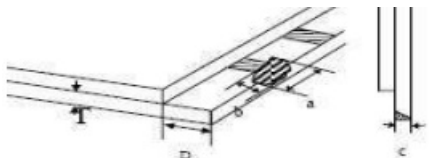
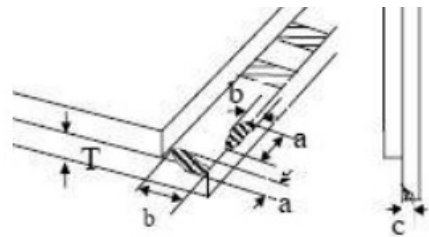
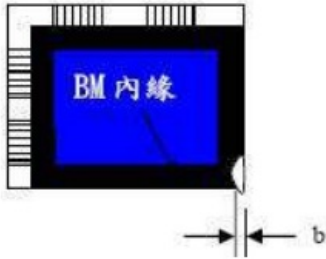
Reliability Trial

NO.	ITEM	CONDITION	CRITERION
1	High Temperature Non-Operating Test	80°C*120Hrs	No Defect Of
			Operational
2	Low Temperature Non-Operating Test	-30°C*120Hrs	Function In Room
			Temperature Are
3	High Temperature/Humidity Non Operating Test	60°C*90%RH*120Hrs	Allowable
4	High Temperature Operating Test	70°C*72Hrs	
5	Low Temperature Operating Test	-20°C*72Hrs	
6	Thermal Shock Test	-20 °C (30Min) Q70 °C	
		(30Min) *10CYCLES	

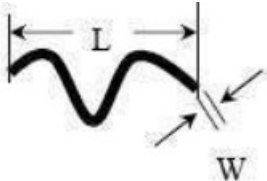
Inspection standards

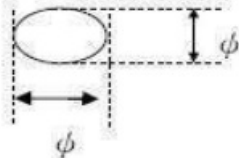
Glass defect

NO	Defect item	Criteria	Remark
1	Dimension Unconformity (Major defect)	By Engineering Drawing	
2	Cracks (Major defect)	1. Linear cracks panel Reject 2. Nonlinear crack contrast by limited sample	
3	Glass extrude the conductive area (minor defect)	a: disregards and no influence assemblage. 1) $b \leq 1/3$ Pin width(non bonding area) Accept 2) bonding area ≤ 0.5 mm Accept	A: Length, b: Width

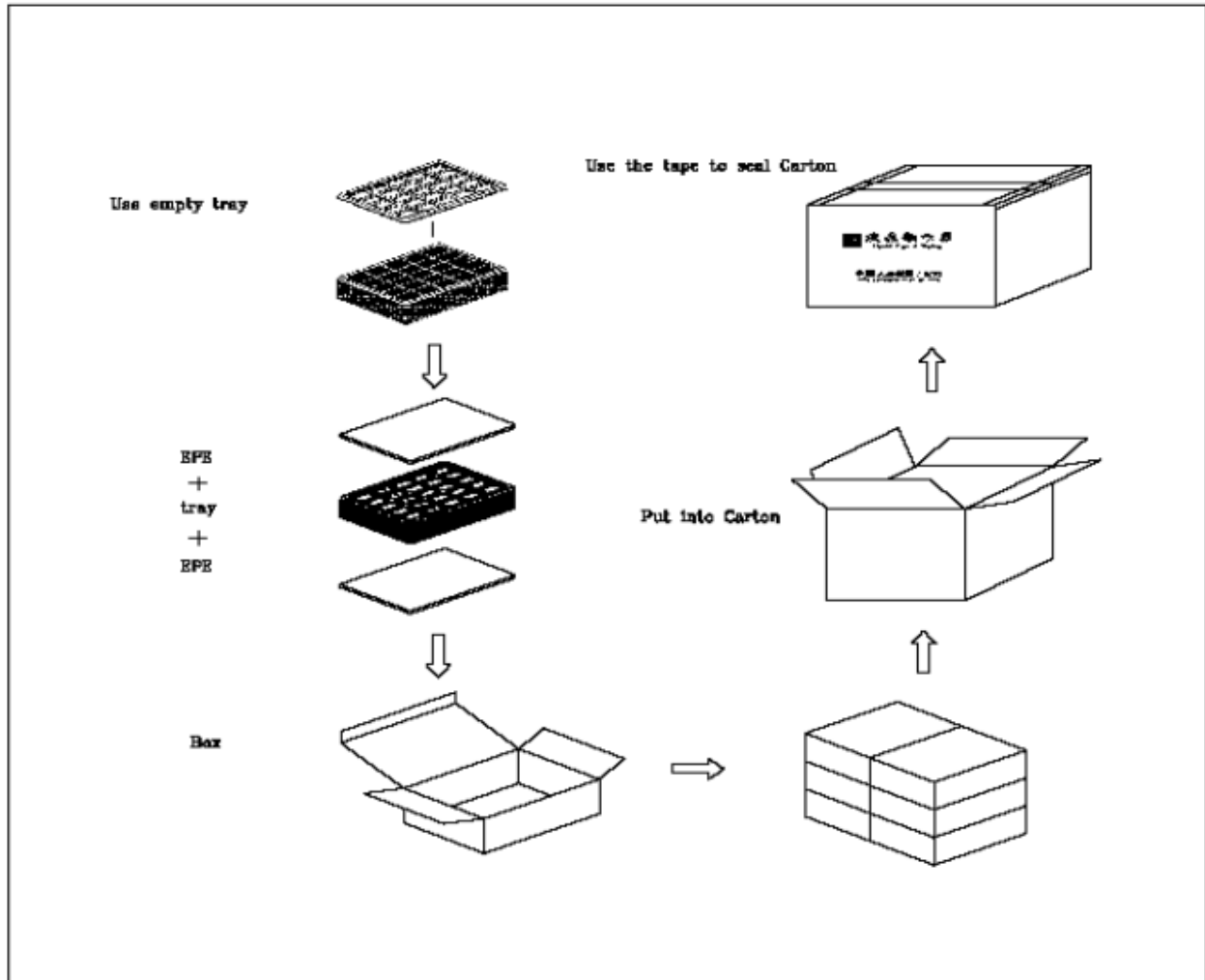
4	Pin-side ,conductive area damaged (minor defect)	(a c: disregards) $b \leq 1/3$ of effective length for bonding electrode Accept	a: length, b: Width, c: Thickness 
5	Pin-side,non-conductive area damaged (minor defect)	1) Damage area don't touch the ITO (Including contraposition mark, except scribing mark) Accept 2) $C < T$ $b \leq BM1/3$ of width Accept 3) $c = T$ b not touch the seal glue Accept 4) a disregards	a: Length, b: Width c: Thickness 
6	Non-pin-side damage (minor defect)	$c < T$ 1) b exceeds $1/3 BM$ Reject $c = T$ b not touch the seal glue Reject	c: Thickness b: width of damage 

LCD appearance defect(View area)

NO	Defect item	Criteria		Remark
1	Fiber glass cratch polarizer scratch/folded (minor defect)	Specification	Allowable	note1:L: Length, W: Width note2: disregard if out of AA 
		$W \leq 0.03\text{mm}$	disregard	
		$0.03\text{mm} < W \leq 0.05\text{mm};$ $L \leq 3.0\text{mm}$	2	
		$0.05\text{mm} < W \leq 0.1\text{mm};$ $L \leq 3.0\text{mm}$	1	
		$W > 0.1\text{mm}; L > 3.0\text{mm}$	0	
2	Polarizer bubble concave and convex (minor defect)	$\phi \leq 0.2\text{mm}$	disregard	note1: $\phi = (L+W)/2$, L:Length, W :Width note2:disregard if out of AA
		$0.2\text{mm} < \phi \leq 0.3\text{mm}$	2	
		$0.3\text{mm} < \phi \leq 0.5\text{mm}$	1	
		$0.5\text{mm} < \phi$	0	
3	Black dots dirty dots	$\phi \leq 0.15\text{mm}$	disregard	note2:disregard if out of AA

	impurities eye winker (minor defect)	$0.15\text{mm} < \phi \leq 0.25\text{mm}$	2	
		$0.25\text{mm} < \phi \leq 0.3\text{mm}$	1	
		$0.3\text{mm} < \phi$	0	
4	Polarizer prick (minor defect)	$\phi \leq 0.1\text{mm}$	disregard	note1: $\phi = (L+W)/2$, L=Length, W=Width note2:the distance between two dots > 5mm
		$0.1\text{mm} < \phi \leq 0.25\text{mm}$	3	
		$\phi > 0.25\text{mm}$	0	

Package Method



Documents / Resources



[Surenoo STP0320A1-240320 Series TFT LCD Panel](#) [pdf] User Manual
STP0320A1-240320, STP0320A1-240320 Series TFT LCD Panel, STP0320A1-240320 Series,
TFT LCD Panel, LCD Panel, Panel, STP0320A1-240320

References

- [Surenoo Tech: Professional LCD Module Supplier Since 2005](#)