



Surenoo STP0177C-128160 Series TFT LCD Panel User Manual

[Home](#) » [Surenoo](#) » Surenoo STP0177C-128160 Series TFT LCD Panel User Manual 

Contents

- 1 Surenoo STP0177C-128160 Series TFT LCD Panel
- 2 General Description
- 3 Mechanical Specification
- 4 Mechanical Dimension
- 5 Electrical Maximum Ratings
- 6 Backlight Characteristic
- 7 Module Function Description
- 8 Viewing Angle
- 9 Inspection standards
- 10 Package Method
- 11 Documents / Resources
 - 11.1 References
- 12 Related Posts



Surenoo STP0177C-128160 Series TFT LCD Panel



Model No.: STP0177C-128160

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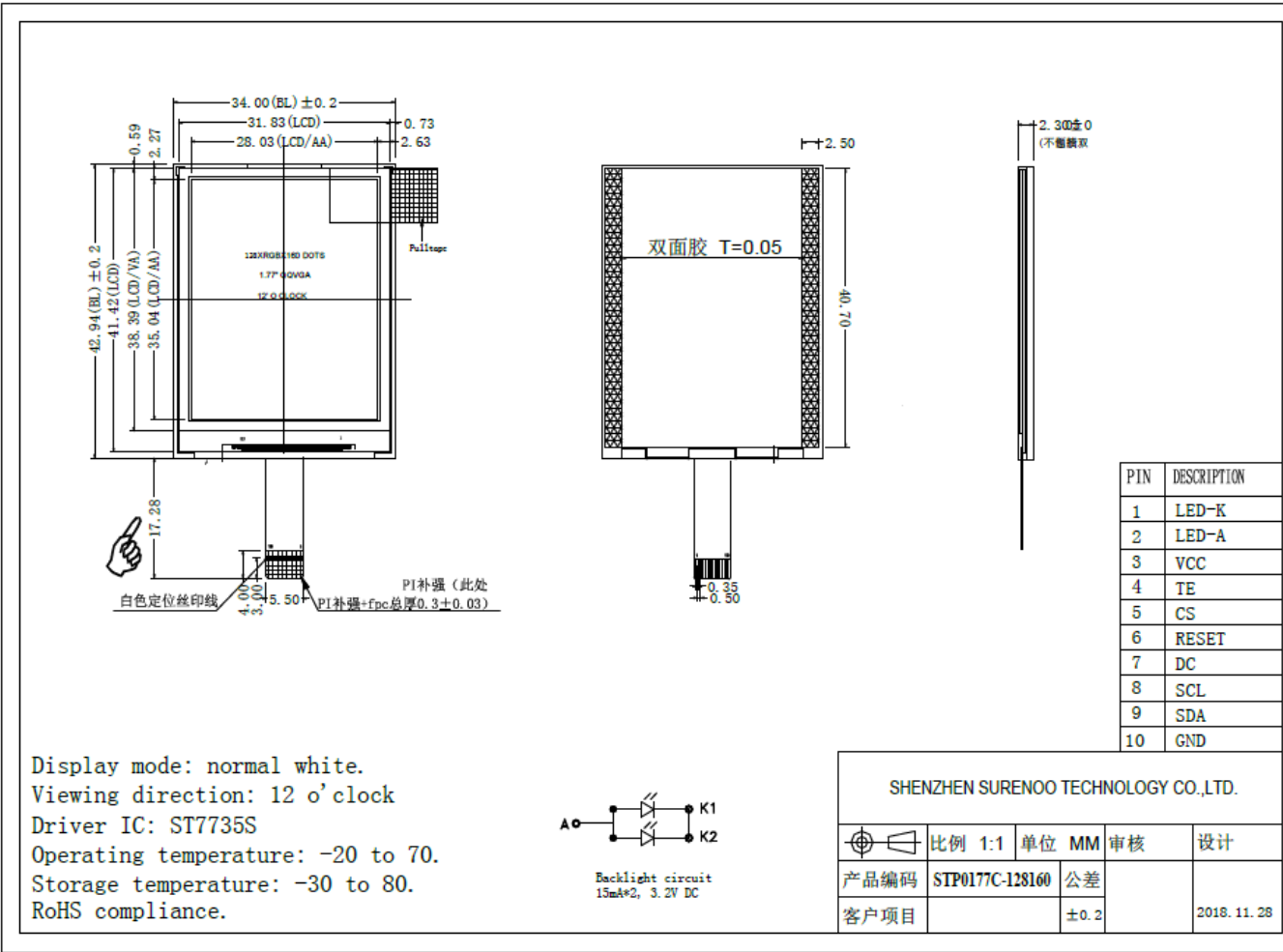
General Description

MODEL NO	STP0177C-128160
Display Mode	Transmissive
Display Format	Graphic 128RGB*160 Dot-matrix 128xRGBx160
Input Data	SPI-4wire interface
Viewing Direction	12 o'clock 12
Drive	ST7735S

Mechanical Specification

Item	Specifications	Unit
Dimensional outline	33.30(W)*42.94(H)*2.30+/-0.1(T) (FPC not include)	mm
Resolution	128RGB*160	dots
LCD Active area	28.03 (W)*35.04 (H)	mm
Pixel size	0.219(W)*0.219(H)	mm

Mechanical Dimension

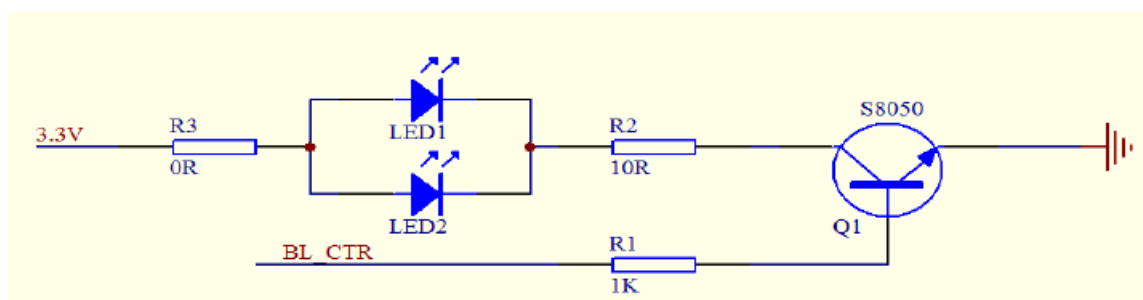


Electrical Maximum Ratings

Item	Symbol	Min	Max	Unit	Note
Supply voltage IOVCC	V	1.65	3.3	V	1.8
Supply voltage VCC	V	2.5	3.5	V	2.8
Operating temperature	TOPR	-20	70	°C	
Storage temperature	TSTR	-30	80	°C	

Backlight Characteristic

Item	Symbol	Min	Typical	Max	Unit
LED module Forward voltage	VLED	3.0	3.3	3.4	V
LED module current	ILED	–	30	–	mA
LCD Surface Luminance	LS	150	200	–	Cd/m2
LCM Surface brightness uniform	LD	80	–	–	%



Module Function Description

1	LED-K
2	LED-A
3	VCC
4	TE
5	CS
6	RESET
7	DC
8	SCL
9	SDA
10	GND

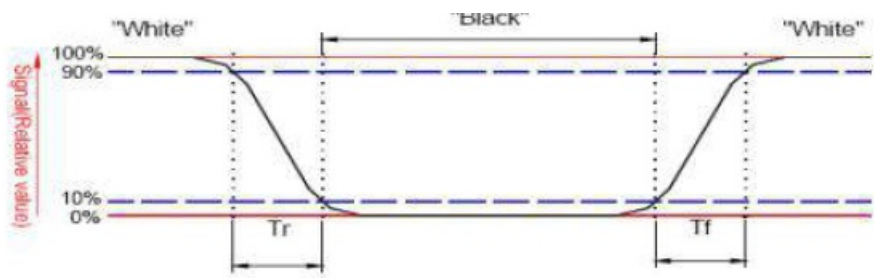
TFT-LCD

VCC	—	2.5	2.8	3.5	V
IOVCC	—	1.65	1.8	3.3	V
VIH	IOVCC=1.8-3.3V	0.8* VIOVCC	—	IOVCC	V
VIL		VSSI	—	0.2* VIOVCC	V
IDD	VCC=2.8V		TBD		mA

IF	VF=3.2V	—	30	40	mA
VF	IF=15mA	3.0	—	3.4	V
Lv		—	—	—	cd/m ²
ΔBp		80	—	—	%

Response time&Contrast ratio

Item	Symbol	Condition	Remark			Unit
			Min.	Typ.	Max.	
Response time	Tr+Tf	$\theta=0^{\circ}$	–	30	60	ms
Contrast ratio	CR	$\theta=0^{\circ}$	200	300	–	



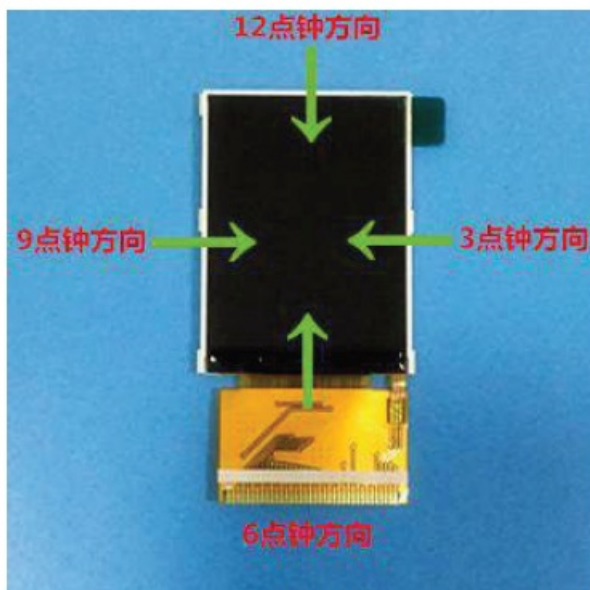
响应时间图示

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

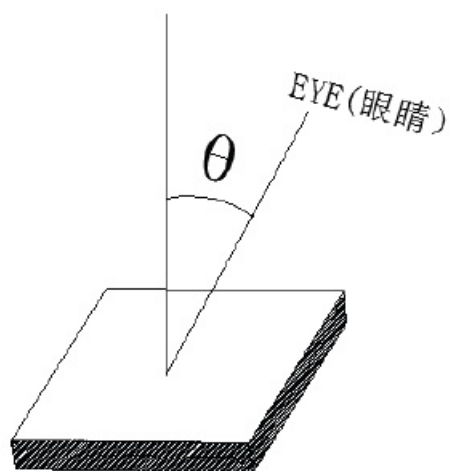
对比度计算公式

Viewing Angle

Item	Symbol	Condition	Remark			Unit
			Min.	Typ.	Max.	
Viewing angle	Top	$CR \geq 10$	20	30	—	Deg.
	Bottom	$CR \geq 10$	40	45	—	
	Left	$CR \geq 10$	40	45	—	
	Right	$CR \geq 10$	40	45	—	



垂直于屏表面

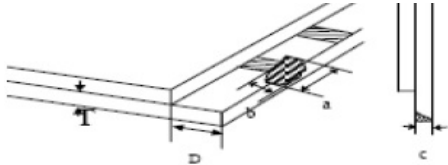


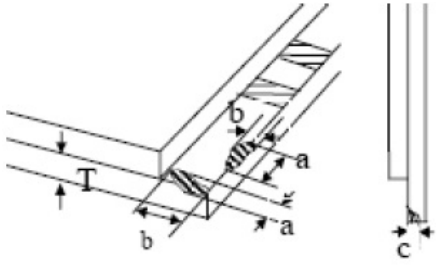
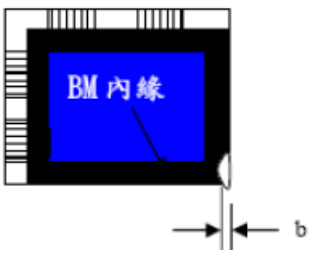
Reliability Trial

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) n 70 °C	
		(30Min) *10CYCLES	

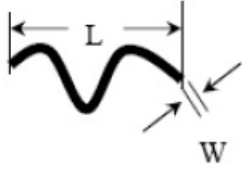
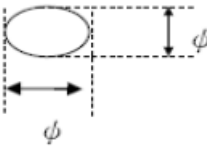
Inspection standards

Glass defect

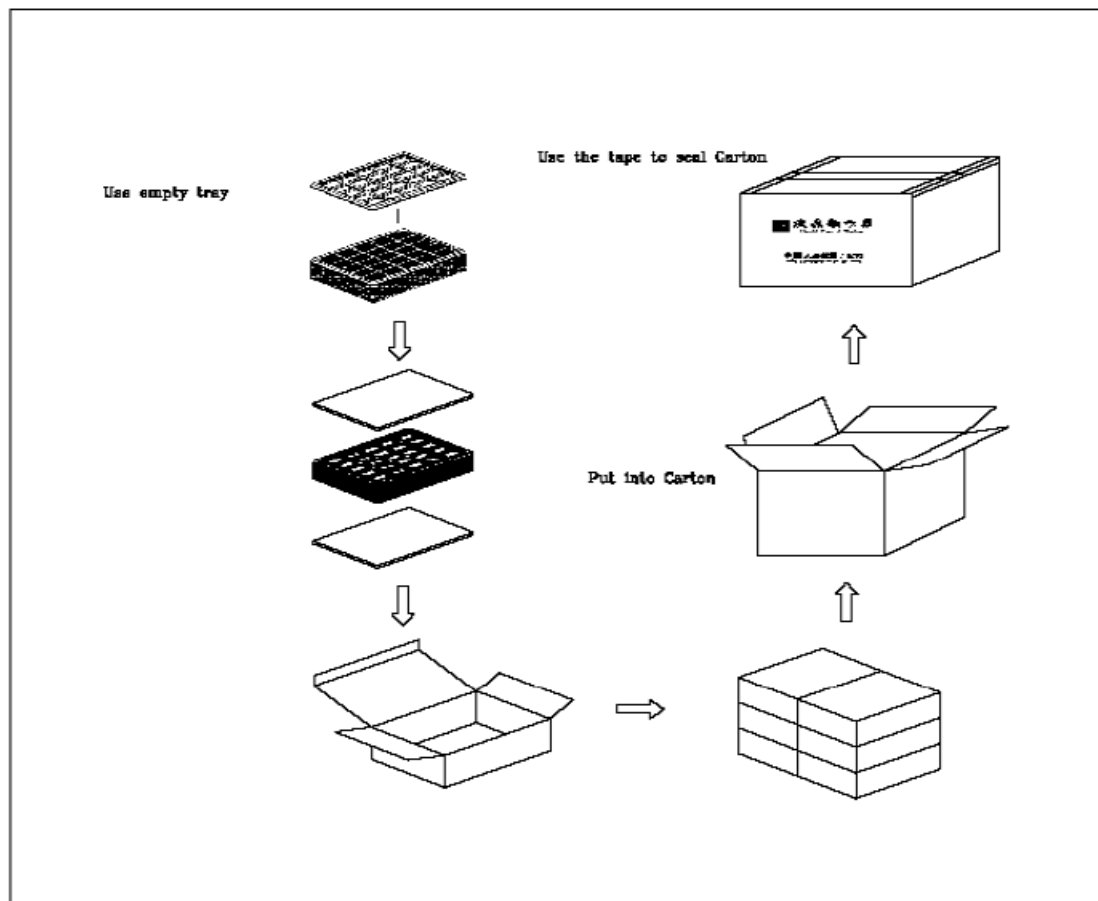
NO	Defect item	Criteria	Remark
1	Dimension Unconformity (Major defect)	By Engineering Drawing	
2	Cracks (Major defect)	1. Linear cracks panel Reject 2. Nonlinear crack contrast by limited sample	
3	Glass extrude the conductive area (minor defect)	a: disregards and no influence assemblage. 1) $b \leq 1/3$ Pin width (non bonding area) Accept 2) bonding area $\leq 0.5\text{mm}$ 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	1) Damage area don't touch the ITO (Including contraposition mark,	a: Length, b: Width c: Thickness

	(minor defect)	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	
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 impurities eye winker (minor defect)	$\phi \leq 0.15\text{mm}$	disregard	note2:disregard if out of AA 
		$0.15\text{mm} < \phi \leq 0.25\text{mm}$	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



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Documents / Resources

	Surenoo STP0177C-128160 Series TFT LCD Panel [pdf] User Manual STP0177C-128160 Series TFT LCD Panel, STP0177C-128160 Series, TFT LCD Panel, LCD Panel, Panel
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References

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