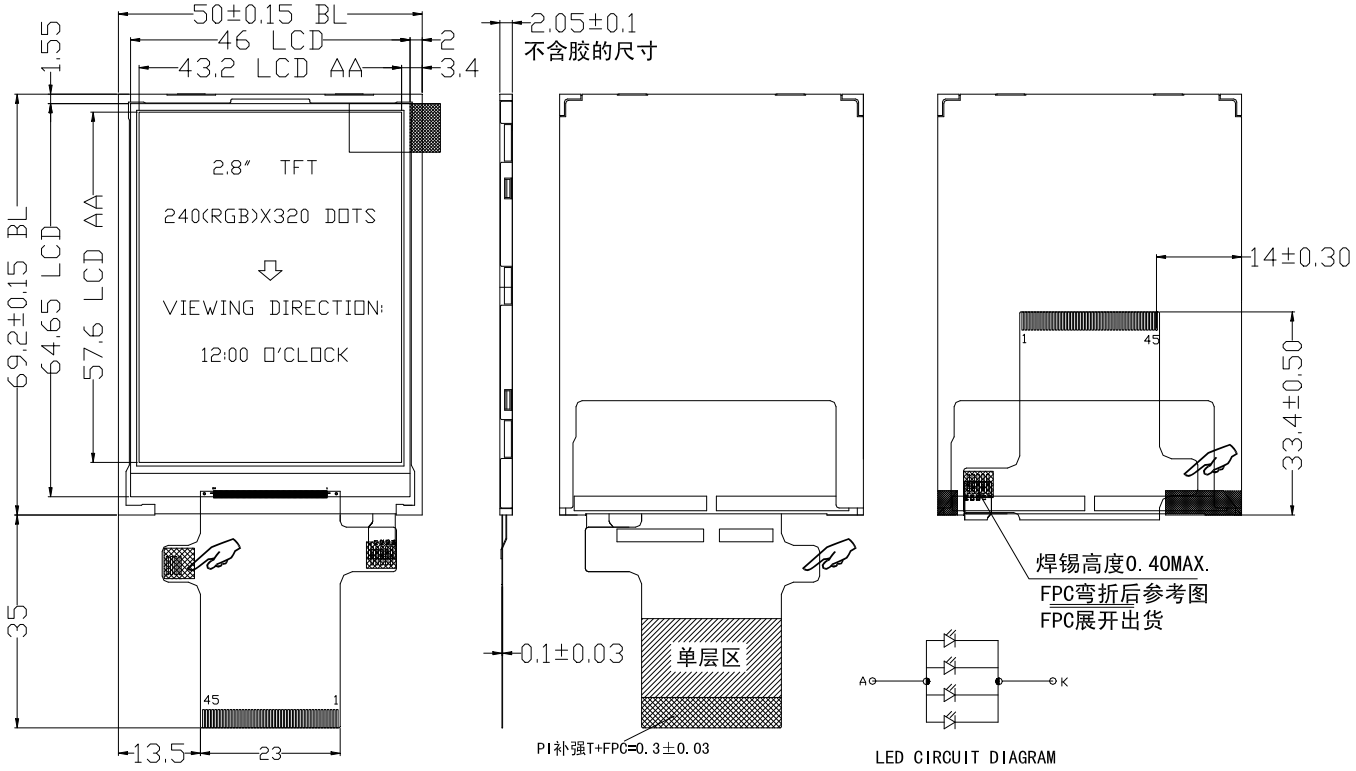


Pin Connections

Pin	Symbol	I/O	Function		Pin	Symbol	I/O	Function
1~4	IM1~IM4	H/L	MCU-Interface mode select: IM3 IM2 IM1 IM0= 0101: 3-line 9-bit serial interface I 0110: 4-line 8-bit serial interface I 1101: 3-line 9-bit serial interface II 1110: 4-line 8-bit serial interface II		32	VSYNC	H/L	Vertical synchronizing input
5	/CS	H/L	Chip selection pin		33	HSYNC	H/L	Horizontal synchronizing input
6	DC	H/L	Display data/command selection		34	LEDA	3.1V	LED anode
7	/WR	H/L	Write enable in MCU parallel interface.		35~38	LEDK1 ~K4	0V	LED cathode
8	/RD	H/L	Read enable in MCU parallel interface.		39	XR	-	Touch panel right signal in X axis
9	/RESET	H/L	Reset signal,active"L"		40	YU	-	Touch panel upper signal in Y axis
10	SDA	H/L	SPI interface input/output pin.		41	XL	-	Touch panel left signal in X axis
11	SDO	H/L	SPI interface output pin.		42	YD	-	Touch panel lower signal in Y axis
12~29	DB17~DB0	H/L	Data bus		43~44	VSS	0V	Power ground
30	EANBLE	H/L	Data enable signal for RGB interface operation.		45	VDD	2.8V	Power supply
31	DOTCLK	H/L	Dot clock signal					

Basic Specifications

Item	Specifications
Size	2.8 inch
Resolution	240×3(RGB)×320
Color depth	65K
Viewing direction	12 o'clock
Operation temperature	-20 ℃ ~70 ℃
Storage temperature	-30 ℃ ~ 80 ℃
Driver IC	ST7789V
Interface type	6-bit /16-bit/18-bit RGB interface, 3-line 9-bit serial interface I, 4-line 8-bit serial interface I, 3-line 9-bit serial interface II, 4-line 8-bit serial interface II

DC Electrical Characteristics&Backlight Driving Conditions

Item	Symbol	Min.	Typ.	Max.	Unit
Power supply	V_{DD}	2.6	2.8	3.3	V
Supply Current	I_{DD}	-	-	-	mA
Input signal voltage	V_{IH}	0.7 V_{DDI}	-	V_{DDI}	V
	V_{IL}	V_{SS}	-	0.3 V_{DDI}	V
Output signal Voltage	V_{OH}	0.8 V_{DDI}	-	V_{DDI}	V
	V_{OL}	V_{SS}	-	0.2 V_{DDI}	V
Power supply for LED backlight	V_F	-	3.1	-	V
Current for LED backlight	I_F	-	80	-	mA
Operating life time for LED backlight	Ta=25℃and I_F =80mA	-	20000	-	Hrs

Optical Specifications

Item		Symbol	Condition	Min.	Typ.	Max.	Unit
View angles	VERT	θT	CR≧10 (Note)	40	50	-	Degree
		θB		60	70	-	
	HOR	θL		60	70	-	
		θR		60	70	-	
Contrast ratio		CR	θ=0°	500	700	-	
Chromaticity	White	X	Backlight is on	0.25	0.30	0.35	
		Y		0.25	0.30	0.35	
Luminance		L	Ta=25℃and I_F =80mA	-	200	-	cd/m^2

Note: T:Top 12 o'clock; B:Bottom 6 o'clock; L:Left 9 o'clock; R:Right 3 o'clock