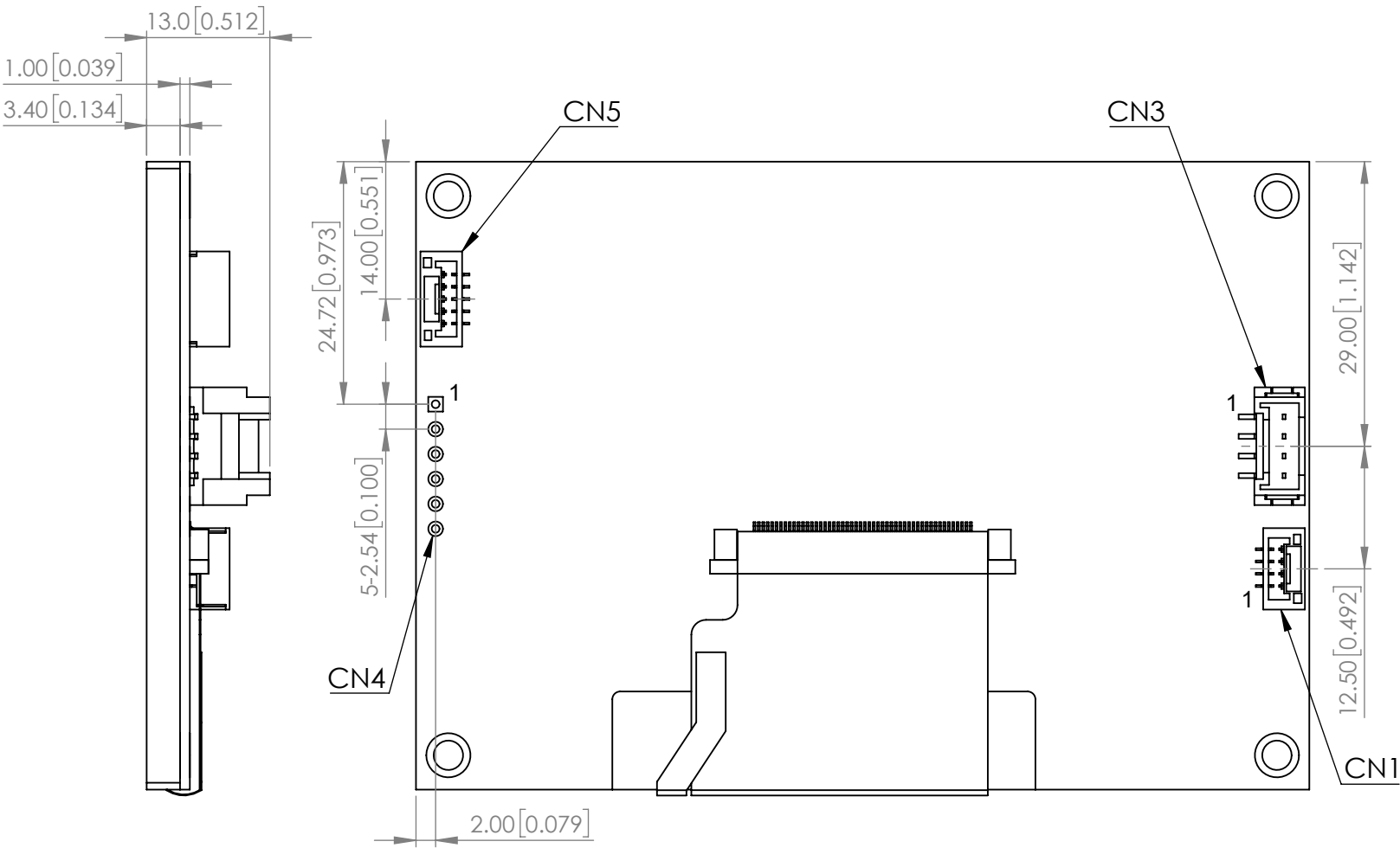
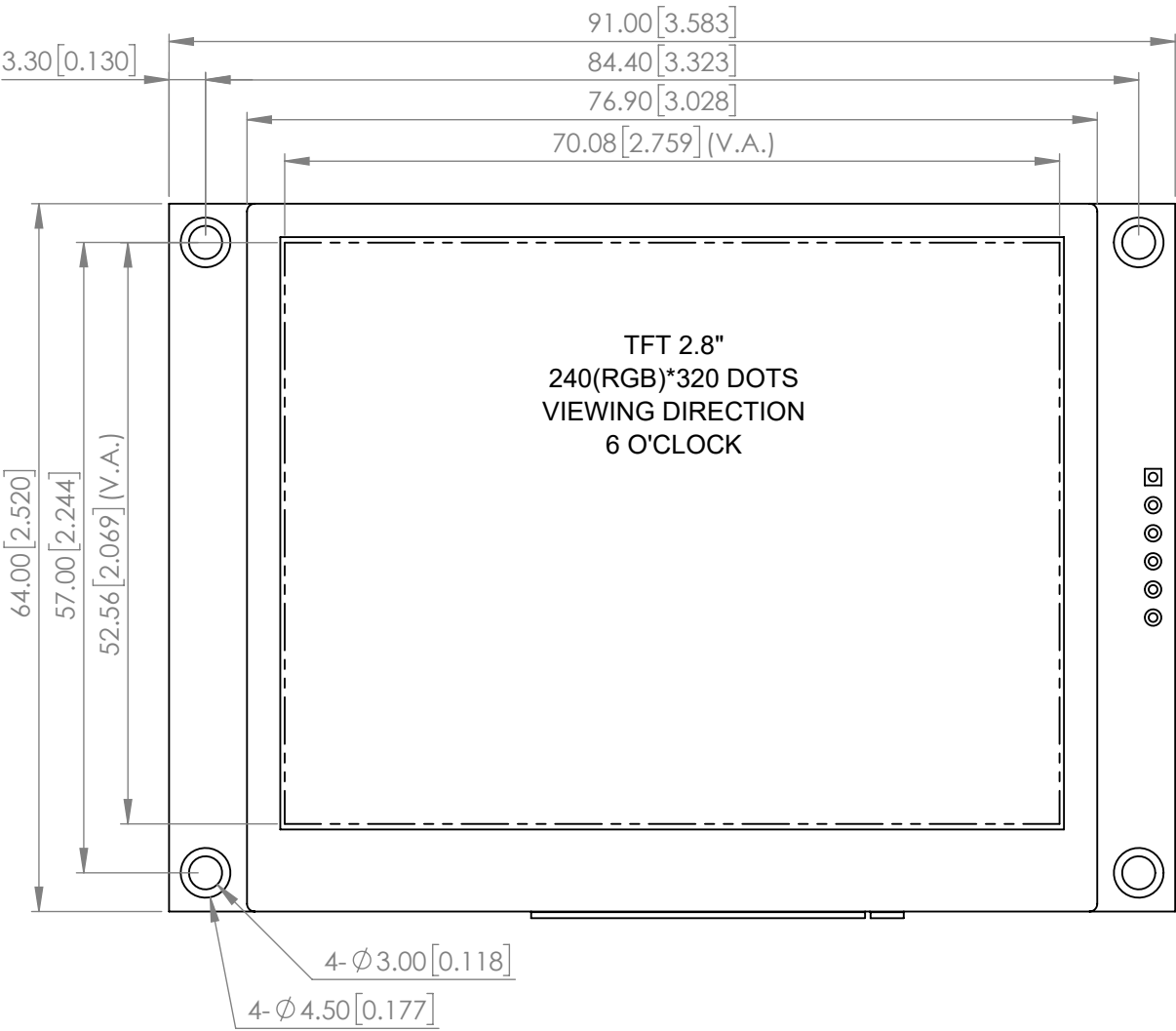


PRELIMINARY

PART NUMBER		LCT-H240320M28W-G2	REV	X2
REV	E.C.N. NUMBER AND REVISION COMMENTS			DATE
X2	-			03.27.24



*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN= ^{+DECIMAL PRECISION} -0.00 MAX= ^{+0.00} -DECIMAL PRECISION



425 N. GARY AVE.
CAROL STREAM, IL 60188
PHONE : 800-278-5666
FAX : 630-315-2150
WEB : WWW.LUMEX.COM

3.8" IPS TFT, 90.1(W)*64.0(H)*13.0(D)mm, 320(RGB)*240 DOTS, TRANSMISSIVE/POSITIVE, CAN bus/UART/4-WIRE SPI INTERFACE.

THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE.

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DATE : 2024.03.18

DRAWN BY : E.C.

PAGE : 1 OF 5

CHKD BY : T.S.

SCALE : NTF

APRVD BY : --

UNIT : mm [INCH]

Ⓢ

PIN ASSIGNMENTS:

CN1

PIN NO.	PIN OUT	LEVEL	DESCRIPTION
1	+5V	+5V	POWER SUPPLY VOLTAGE
2	CANH	H/L	CAN bus D+
3	CANL	H/L	CAN bus D-
4	GND	0V	POWER SUPPLY GROUND

CN3

PIN NO.	PIN OUT	LEVEL	DESCRIPTION
1	TXD	H/L	SERIAL TRANSMIT SIGNAL
2	RXD	H/L	SERIAL RECEIVE SIGNAL
3	+5V	+5V	POWER SUPPLY VOLTAGE
4	GND	0V	POWER SUPPLY GROUND

CN4

PIN NO.	PIN OUT	LEVEL	DESCRIPTION
1	+5V	+5V	POWER SUPPLY VOLTAGE
2	CLK	-	THIS PIN IS USED TO BE SERIAL INTERFACE CLOCK
3	MOSI	-	SPI INTERFACE INPUT PIN
4	D/C	-	DATA OR COMMAND PIN
5	/CS	-	CHIP SELECTION PIN
6	GND	0V	POWER SUPPLY GROUND

CN5

PIN NO.	PIN OUT	LEVEL	DESCRIPTION
1	+3.3V	+3.3V	POWER SUPPLY VOLTAGE
2	SW	H/L	SWITCH
3	A	H/L	ENCODE_A
4	B	H/L	ENCODE_B
5	GND	0V	POWER SUPPLY GROUND

GENERAL SPECIFICATION

ITEM	DESCRIPTION
DISPLAY TYPE	3.5" IPS TFT
MODULE DIMENSION	91.0(W)mm*64.0(H)mm*13.0(D)mm
PIXEL PITCH	0.219(W)mm*0.219(H)mm
MODULE RESOLUTION	320*240
POLARIZER MODE	TRANSMISSIVE/POSITIVE
COMMUNICATION INTERFACE	CAN bus(CN1) / UART(CN3) / 4-WIRE SPI(CN5)
FLASH MEMORY	256M bits

ABSOLUTE MAXIMUM RATINGS TA=25 °C

ITEM	SYMBOL	VALUE		UNIT
		MIN	MAX	
OPERATING CURRENT	IMAX	-	250	mA
INPUT VOLTAGE	Vin	4.5	5.5	V
OPERATING TEMPERATURE	TOPR	-20	70	°C
STORAGE TEMPERATURE	TSTG	-30	80	°C

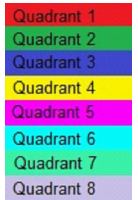
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Easy TFT COMMAND LIST

FONTs AND PAGE COMMANDs			
CODE	FUNCTION	INSTRUCTION OF USING UART	API
0x10	Write an ASCII Character or String without designated background page	1. at10=(Font size, X coordinate, Y coordinate, ASCII String) 2. 200ms delay Font zise: 0: 8x8 fonts 1: 8x16 fonts 2: 16x32 fonts 3: 32x64 fonts 4: 48x70 fonts 	printf("at10=(3,%d,%d,%3d)", X,Y,Speed); or printf("at10=(3,%d,%d,%6.3f)", X,Y,Exchange-Rate); or printf("at10=(4,20,30,%3d V)", Voltage); or printf("at10=(%d,%d,%s)", X,Y,String); Delay_ms(200) ;
0x20	Write an ASCII Character or String with designated background page	1. at20=(Page number, Font size, X coordinate, Y coordinate, ASCII String) 2. 200ms delay Font zise: 0: 8x8 fonts 1: 8x16 fonts 2: 16x32 fonts 3: 32x64 fonts 4: 48x70 fonts 	printf("at20=(%d,3,%d,%d,%3d)", Speed,X,Y,Speed); or printf("at20=(%d,3,%d,%d,%6.3f)", Page,X,Y,Exchange-Rate); or printf("at20=(%d,4,20,30,%3d V)", Page,Voltage); or printf("at20=(%d,%d,%d,%s)", Page,X,Y,String); Delay_ms(200) ;
0xfc	Change Background display to designated page	1. atfc=(page number 0~100) 2. 200ms delay	printf("atfc=(%d)",Page number); Delay_ms(200) ;
0xd2	Clear front page display	1. atd2=() 2. 200ms delay	printf("atd2=()"); Delay_ms(200) ;
0xc0	Setup the color of fonts for quardrant 1 to 8	1. atc0=(Hight byte of color code 0~255, Low byte of color code 0~255) 2. 200ms delay Remark: 16 bits Color code: 0x0000 ~ 0xFFFF Hight byte : 0~255 Low bytes : 0~255 	printf("atc0=(%d,%d)",High byte,Low byte); Delay_ms(200) ;
0xc1	Setup the color of fonts for quardrant 1 to 4	1. atc1=(Hight byte of color code 0~255, Low byte of color code 0~255) 2. 200ms delay Remark: 16 bits Color code: 0x0000 ~ 0xFFFF Hight byte : 0~255 Low bytes : 0~255 	printf("atc1=(%d,%d)",High byte,Low byte); Delay_ms(200) ;

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Easy TFT COMMAND LIST

FONTs AND PAGE COMMANDs			
CODE	FUNCTION	INSTRUCTION OF USING UART	API
0xc2	Setup the color of fonts for quardrant 5 to 8	1. atc2=(Hight byte of color code 0~255, Low byte of color code 0~255) 2. 200ms delay Remark: 16 bits Color code: 0x0000 ~ 0xFFFF Hight byte : 0~255 Low bytes : 0~255 	printf("atc2=(%d,%d)",High byte,Low byte); Delay_ms(200) ;
0xc3	Setup the color of fonts for designated quardrant	1. atc3=(Hight byte of color code 0~255, Low byte of color code 0~255) 2. 200ms delay Remark: 1. quardrant#:1~8 2. 16 bits Color code: 0x0000 ~ 0xFFFF Hight byte : 0~255 Low bytes : 0~255 	printf("atc3=(1.240,0)");or (quadrant 1 Red color) printf("atc3=(%d,%d,%d)"quadrant,High byte,Low byte); Delay_ms(200) ;

SYSTEM CONTROL COMMANDs			
CODE	FUNCTION	INSTRUCTION OF USING UART	API
0xf2	Setup backlight brightness	1. atf2=(backlight brightness 1~100) 2. 200ms delay	printf("atf2=(%d)",brightness); 200ms delay;
0xf3	Erase correspond falsh memory page	1. atf3=(page number 0~199) 2. 200ms delay	printf("atf3=(%d)",Page number); 200ms delay;
0xf7	Turn front page display 90 degree left	1. atf7=(0 or 1) 2. 200ms delay	printf("atf7=(1)",turn_flag; 200ms delay;

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			PART NUMBER	LCT-H240320M28W-G2	REV	X2
Easy TFT COMMAND LIST						
GRAPHIC COMMANDs						
CODE	FUNCTION	INSTRUCTION OF USING UART		API		
0x90	Draw a line	1. at90=(X0 coordinate, Y0 coordinate, X1 coordinate, Y1 coordinate) 2. 200ms delay		printf("at90=(%d,%d,%d,%d)",X0 coordinate,Y0 coordinate,X1 coordinate,Y1 coordinate); 200ms delay;		
0x91	Draw a Rectangle	1. at91=(X0 coordinate, Y0 coordinate, X1 coordinate, Y1 coordinate) 2. 200ms delay		printf("at91=(%d,%d,%d,%d)",X0 coordinate,Y0 coordinate,X1 coordinate,Y1 coordinate); 200ms delay;		
0x92	Draw a solid Rectangle	1. at92=(X0 coordinate, Y0 coordinate, X1 coordinate, Y1 coordinate) 2. 200ms delay		printf("at92=(%d,%d,%d,%d)",X0 coordinate,Y0 coordinate,X1 coordinate,Y1 coordinate); 200ms delay;		
0x94	Draw a Circle	1. at94=(X coordinate, Y coordinate,Radius) 2. 200ms delay		printf("at94=(%d,%d,%d)",X coordinate,Y coordinate,Radius); 200ms delay;		
0x95	Draw a solid Circle	1. at95=(X coordinate, Y coordinate,Radius) 2. 200ms delay		printf("at95=(%d,%d,%d)",X coordinate,Y coordinate,Radius); 200ms delay;		
0x96	Draw a tip upward Triangle	1. at96=(X coordinate, Y coordinate, Height) 2. 200ms delay		printf("at96=(%d,%d,%d)",X coordinate,Y coordinate,Height); 200ms delay;		
0x97	Draw a tip upward solid Triangle	1. at97=(X coordinate, Y coordinate, Height) 2. 200ms delay		printf("at97=(%d,%d,%d)",X coordinate,Y coordinate,Height); 200ms delay;		
0x98	Draw a tip downward Triangle	1. at98=(X coordinate, Y coordinate, Height) 2. 200ms delay		printf("at98=(%d,%d,%d)",X coordinate,Y coordinate,Height); 200ms delay;		
0x99	Draw a tip downward solid Triangle	1. at99=(X coordinate, Y coordinate, Height) 2. 200ms delay		printf("at99=(%d,%d,%d)",X coordinate,Y coordinate,Height); 200ms delay;		
0x9a	Draw a tip leftward Triangle	1. at9a=(X coordinate, Y coordinate, Height) 2. 200ms delay		printf("at9a=(%d,%d,%d)",X coordinate,Y coordinate,Height); 200ms delay;		
0x9b	Draw a tip leftward solid Triangle	1. at9b=(X coordinate, Y coordinate, Height) 2. 200ms delay		printf("at9b=(%d,%d,%d)",X coordinate,Y coordinate,Height); 200ms delay;		
0x9c	Draw a tip rightward Triangle	1. at9c=(X coordinate, Y coordinate, Height) 2. 200ms delay		printf("at9c=(%d,%d,%d)",X coordinate,Y coordinate,Height); 200ms delay;		
0x9d	Draw a tip rightward solid Triangle	1. at9d=(X coordinate, Y coordinate, Height) 2. 200ms delay		printf("at9d=(%d,%d,%d)",X coordinate,Y coordinate,Height); 200ms delay;		
0x9e	Draw a pixel	1. at9e=(X coordinate, Y coordinate) 2. 200ms delay		printf("at9e=(%d,%d)",X coordinate,Y coordinate); 200ms delay;		
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					SCALE : NTF	APRVD BY : --
					UNIT : mm [INCH]	