Stellaris LaunchPad LCD Boosterpack EB-LM4F120-L35 User Guide

1 EB-LM4F120-L35 Overview

The EB-LM4F120-L35 is a LCD boosterpack for the Stellaris LaunchPad (see Figure 1).

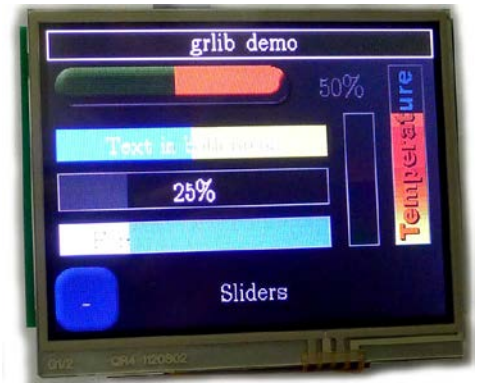

Figure 1. LCD boosterpack for Stellaris LaunchPad

The boosterpack include a 3.5 inch QVGA TFT LCD module (P/N: K350QVG-V2-F) and with build in LED backlight driver circuit. The LCD connector also can be interfaced to larger size LCD module from Kentec Display (4.3 inch: K430WQC-V3-FF; 5 inch: K50DWN2-V1-FF; 7 inch: K70DWN2-V1-FF; 9 inch: K90DWN2-V1-FF).

2 Expansion Board Dimensions

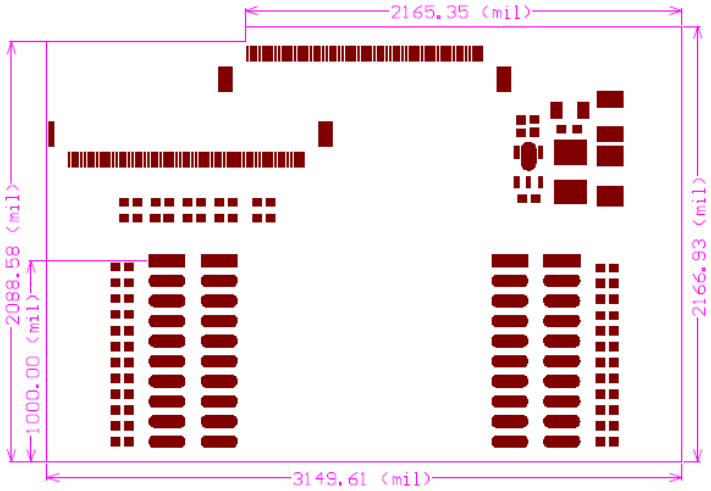

Figure 2. LCD connector Location (Bottom)

3 EB-LM4F120-L3 Interface

Table 1. Pin socket connect to Stellaris LaunchPad MCU board

J1 Pin	Symbol	LaunchPad Pin	Description
1	3V3	+3.3V	Power supply
2	LCD_D5	PB5	Data bit 5 for LCD
3	LCD_D0	PB0	Data bit 0 for LCD
4	LCD_D1	PB1	Data bit 1 for LCD

Continued Table 1, Main Interface Signal (Pin socket connect to EK-LM4F232 MCU board)

5	**TOUCH_XP**	**PE4**	Resistor touch screen terminal (Left)
6	**TOUCH_YP**	**PE5**	Resistor touch screen terminal (Top)
7	**LCD_D4**	**PB4**	Data bit 4 for LCD
8	**LCD_WR**	**PA5**	Write control signal for LCD
9	**LCD_RS**	**PA6**	Register/Data select for LCD
10	**LCD_CS**	**PA7**	Chip select for LCD
J2 Pin	**Symbol**	**LaunchPad Pin**	**Description**
1	**GND**	**GND**	Ground
2	**LCD_D2**	**PB2**	Data bit 2 for LCD
3	**NC**	**PE0**	No connection
4	**NC**	**PF0**	No connection
5	**RESET**	**RST**	Reset signal for LCD/MCU
6	**LCD_D7**	**PB7**	Data bit 7 for LCD
7	**LCD_D6**	**PB6**	Data bit 6 for LCD
8	**LCD_RD**	**PA4**	Read control signal for LCD
9	**TOUCH_XN**	**PA3**	Resistor touch screen terminal (Right)
10	**TOUCH_YN**	**PA2**	Resistor touch screen terminal (Bottom)
J3 Pin	**Symbol**	**LaunchPad Pin**	**Description**
1	**5V0**	**VBUS**	Power supply
2	**GND**	**GND**	Ground
3	**NC**	**PD0**	No connection
4	**NC**	**PD1**	No connection
5	**NC**	**PD2**	No connection
6	**NC**	**PD3**	No connection
7	**NC**	**PE1**	No connection
8	**NC**	**PE2**	No connection
9	**NC**	**PE3**	No connection
10	**NC**	**PF1**	No connection
J4 Pin	**Symbol**	**LaunchPad Pin**	**Description**
1	**LCD_BL**	**PF2**	LCD backlight ON/OFF control.
2	**NC**	**PF3**	No connection
3	**LCD_D3**	**PB3**	Data bit 3 for LCD
4	**NC**	**PC4**	No connection
5	**NC**	**PC5**	No connection
6	**NC**	**PC6**	No connection
7	**NC**	**PC7**	No connection
8	**NC**	**PD6**	No connection
9	**NC**	**PD7**	No connection
10	**NC**	**PF4**	No connection

Table 2. LCD Interface Signal (CN1 and CN2, 60pin ZIF connector to LCD module)

Pin	Symbol	Description
1, 2	LED_K	LED power supply (-)
3, 4	LED_A	LED power supply (+)
5	GND	Ground (0V)
6	XR	4-wire resistor touch screen terminal
7	YD	
8	XL	
9	YU	
10	GND	Ground (0V)
11~13	NC	No Connection
14	Reset	Reset input signal for LCD
15	CS	Chip select for LCD
16~19	NC	No Connection
20	D0	Data bit 0, default connected to GND on MCU board
21~25	D1~D5	Data bit 1 ~ bit 5
26, 27	NC	No Connection
28~30	D6~D8	Data bit 6 ~ bit 8
31	D9	Data bit 9, default connected to GND on MCU board
32, 33	D10, D11	Data bit 10 ~ bit 11
34, 35	NC	No Connection
36~41	D12~D17	Data bit 12 ~ bit 17
42~44	GND	Ground (0V)
45, 46	AVDD	Power supply (3.3V)
47, 48	VCC	Power supply (3.3V)
49	RS	Command/Data select signal for LCD
50	RD	Read control signal for LCD
51	WR	Write control signal for LCD
52	PS0	LCD interface select pin for K350QVG-V2-F, default set to i8080 16-bit parallel.
53	PS1	
54	PS2	
55	PS3	
56, 57	NC	No connection
58~60	GND	Ground (0V)

4 Schematics

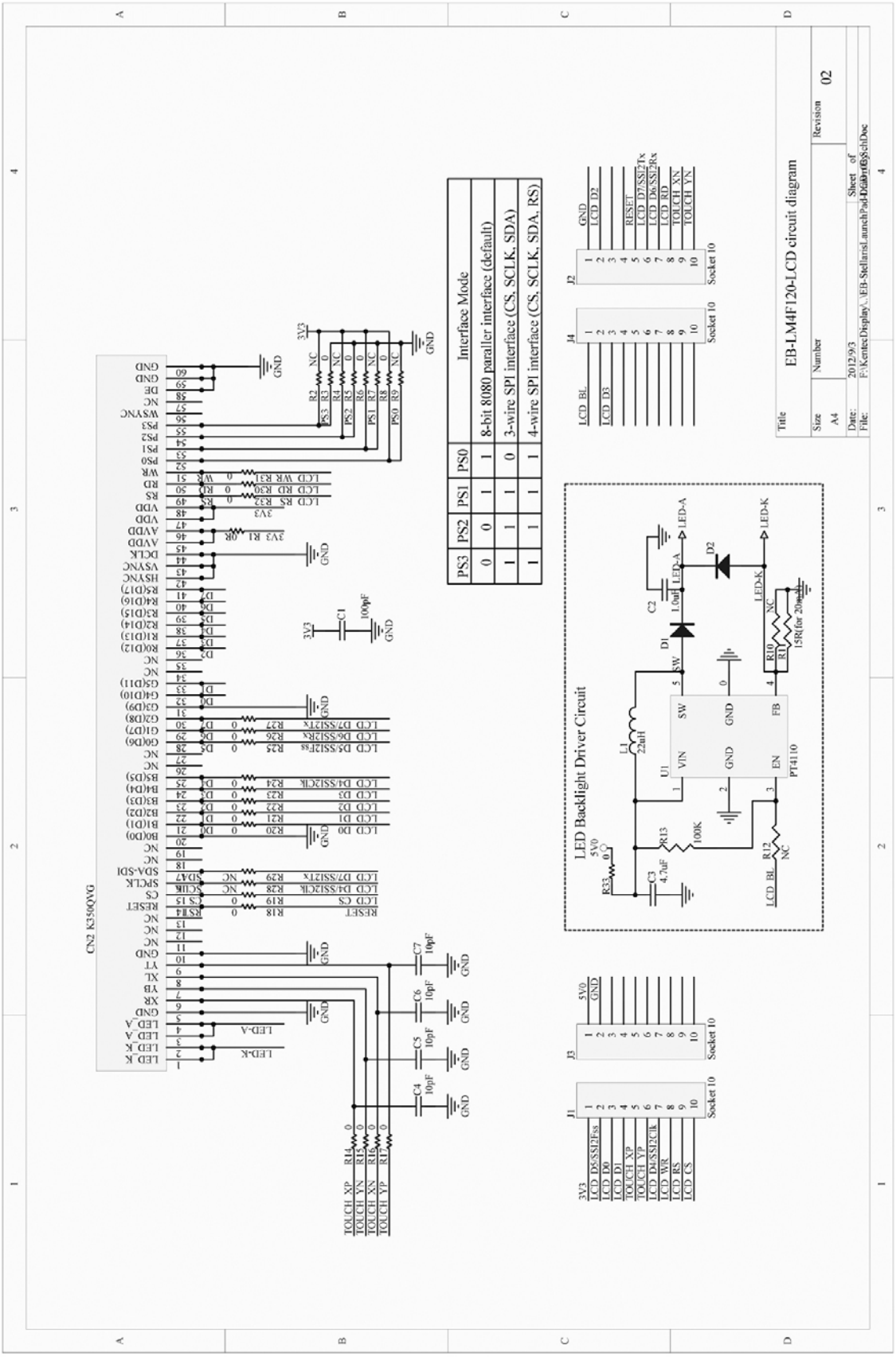

Figure 3. Expansion board schematic

5 LCD driver code examples

Bellow attachment is the source code for the K350QVG-V2-F (EB-LM4F120-L35).

NO.	Document	Attachment
1	Source code package	

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