

## Other Information

To obtain the most recent and complete documentation for this demonstration board, including:

- User's Guide
- Board Description
- Board Schematics
- Source Code
- Application Examples
- Links to Web Seminars

please refer to the Microchip web site: [www.microchip.com/graphics](http://www.microchip.com/graphics)

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## Graphics PICtail™ Plus Daughter Board 2

### Overview

The Graphics PICtail™ Plus Daughter Board 2 is a demonstration board for evaluating Microchip Technology's graphic LCD display solution and Graphics Library for 16 and 32-bit microcontrollers. It is an expansion board compatible with the Explorer 16 development board.

### Features

- QVGA (320x240) LCD module with built-in graphics controller and resistive touch screen
- Stand-alone graphics controller, Solomon Systech SSD1906, supporting 4/8-bit STN, 4/8-bit CSTN, 18-bit HR-TFT and 9/12/18-bit TFT interfaces via connector, J3
- 4 Mbit (512Kx8) Flash memory for additional data storage
- Sound buzzer

### Getting Started

To get started, an Explorer 16 development board is required. The Graphics PICtail Plus Daughter Board 2 should be inserted into expansion connector, J9, of the Explorer 16 board.

The Graphics PICtail Plus Daughter Board 2 can be configured with several jumpers. They are explained in the following table:

Jumpers	Default State	Description
JP1, JP2	Closed (1:1 division)	With jumpers, JP1 and JP2, the division factor for the bus clock frequency of the SSD1906 controller can be set. Please refer to the SSD1906 graphics controller data sheet for more details. Contact Solomon Systech at <a href="http://www.solomon-systech.com/">http://www.solomon-systech.com/</a> to get the information.
JP3	Closed	Jumper, JP3, controls the sound buzzer. When it is open, the buzzer is disabled.
JP4	Upper Position (RD1)	JP4 jumper allows selecting the chip select line between RD1 and RD11 for the Flash memory.
JP5	Left Position (LCD CS)	Jumper, JP5, selects the graphics device. The left position (LCD CS) corresponds to the LCD module and the right position (1906 CS) to the SSD1906 controller.
JP6, JP7	Upper Position (X1 and Y1)	Jumpers, JP6 and JP7, select the touch screen signals source. In the upper position (X1 and Y1), the LCD module's touch screen will be used. In the lower position (X2 and Y2), the touch screen signals from the connector, J3, will be selected.

The Graphics PICtail Plus Daughter Board 2 can be used in conjunction with the Graphics Library for Microchip microcontrollers. The Microchip Graphics Library and other firmware examples can be downloaded from: <http://www.microchip.com/graphics>

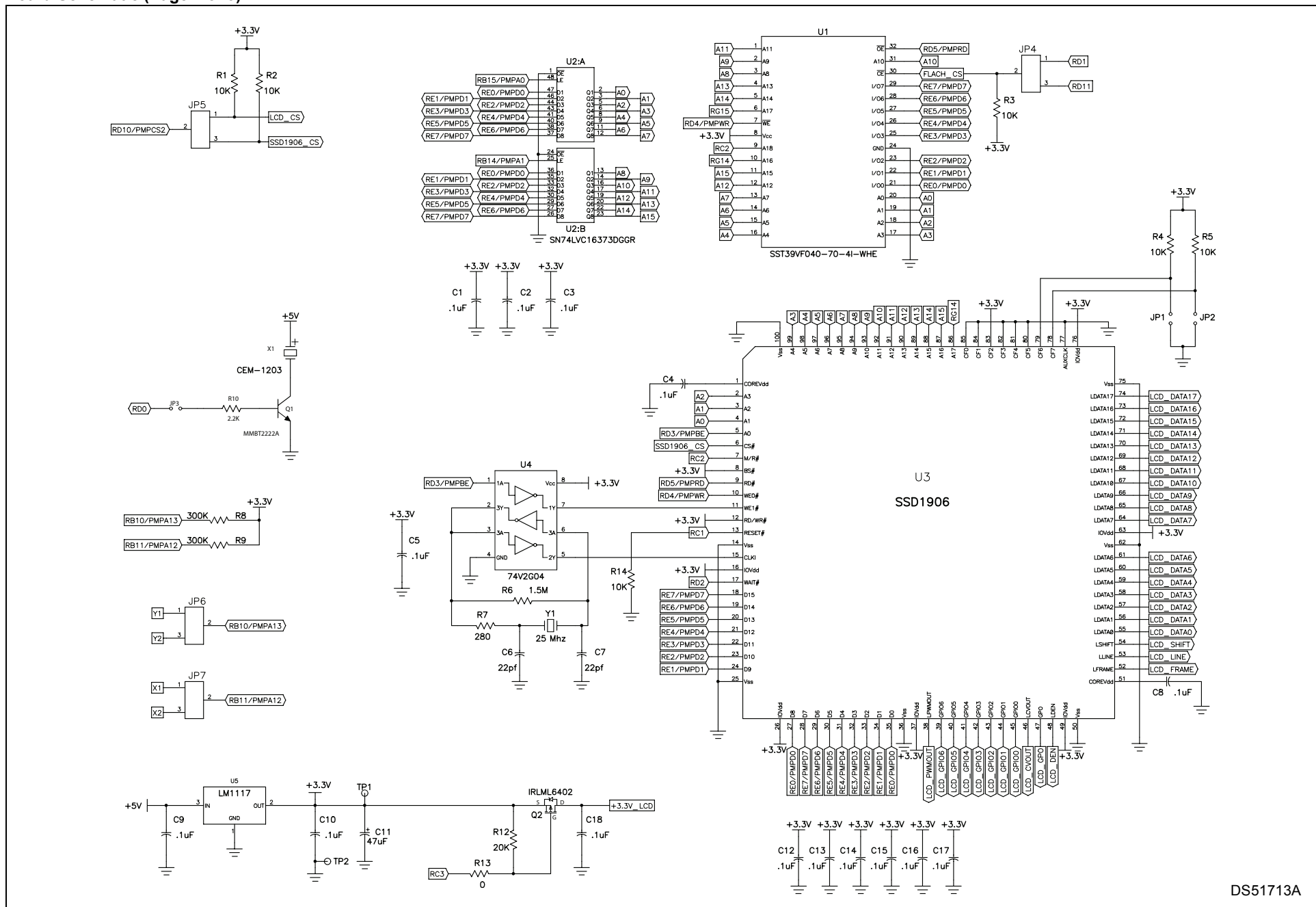
The Microchip Graphics Library installer will create the Start submenu under Programs\Microchip\Microchip Graphics Library folder. Please refer to the "Getting Started" section in the Microchip Graphics Library Help at this location to program and run demonstration projects.

### Signal Interface

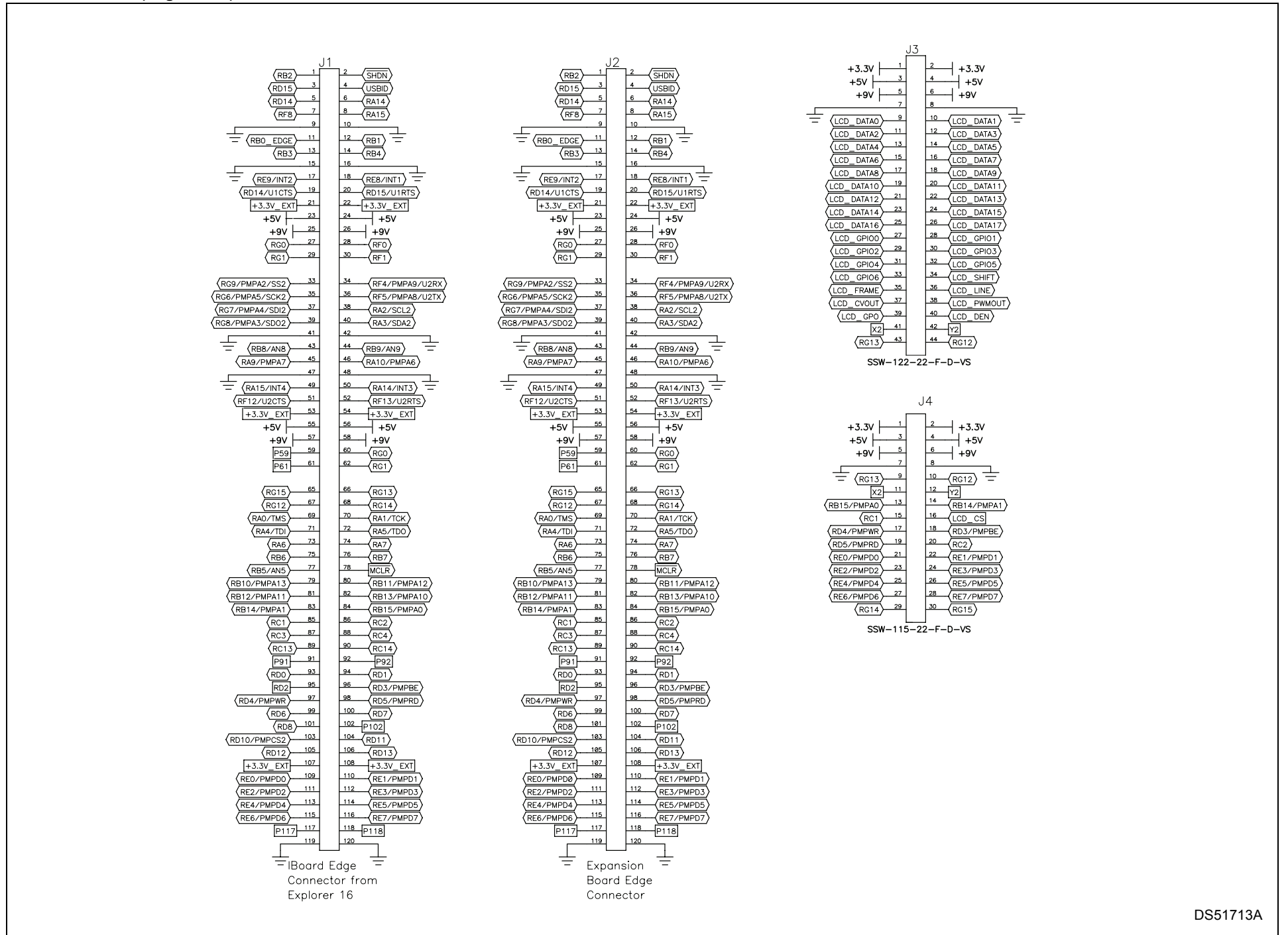
Function	Direction	PICtail™ Plus Interface	Description
DATA BUS	I/O	109-116 (RE0-RE7)	Bidirectional 8-bit data bus
WR	I	97 (RD4)	Write strobe
RD	I	98 (RD5)	Read strobe
RS	I	86 (RC2)	Register select or 18th bit of address
CS	I	103 (RD10)	Graphics device chip select
RST	I	85 (RC1)	Reset
XL	I	66 (RG13)	Touch screen left side line
XR	I/O	80 (RB11)	Touch screen right side line
YU	I	67 (RG12)	Touch screen top side line
YD	I/O	79 (RB10)	Touch screen bottom side line
A16	I	68 (RG14)	16th bit of address
A17	I	65 (RG15)	17th bit of address
ALL	I	84 (RB15)	Address low latch strobe
ALH	I	83 (RB14)	Address high latch strobe
BE	I	96 (RD3)	Byte enable line
FLASH CS1	I	94 (RD1)	Flash memory chip select (first option)
FLASH CS2	I	104 (RD11)	Flash memory chip select (second option)
WAIT	O	95 (RD2)	SSD1906 wait line
BUZZER	I	93 (RD0)	Buzzer

## Graphics PICtail™ Plus Daughter Board 2

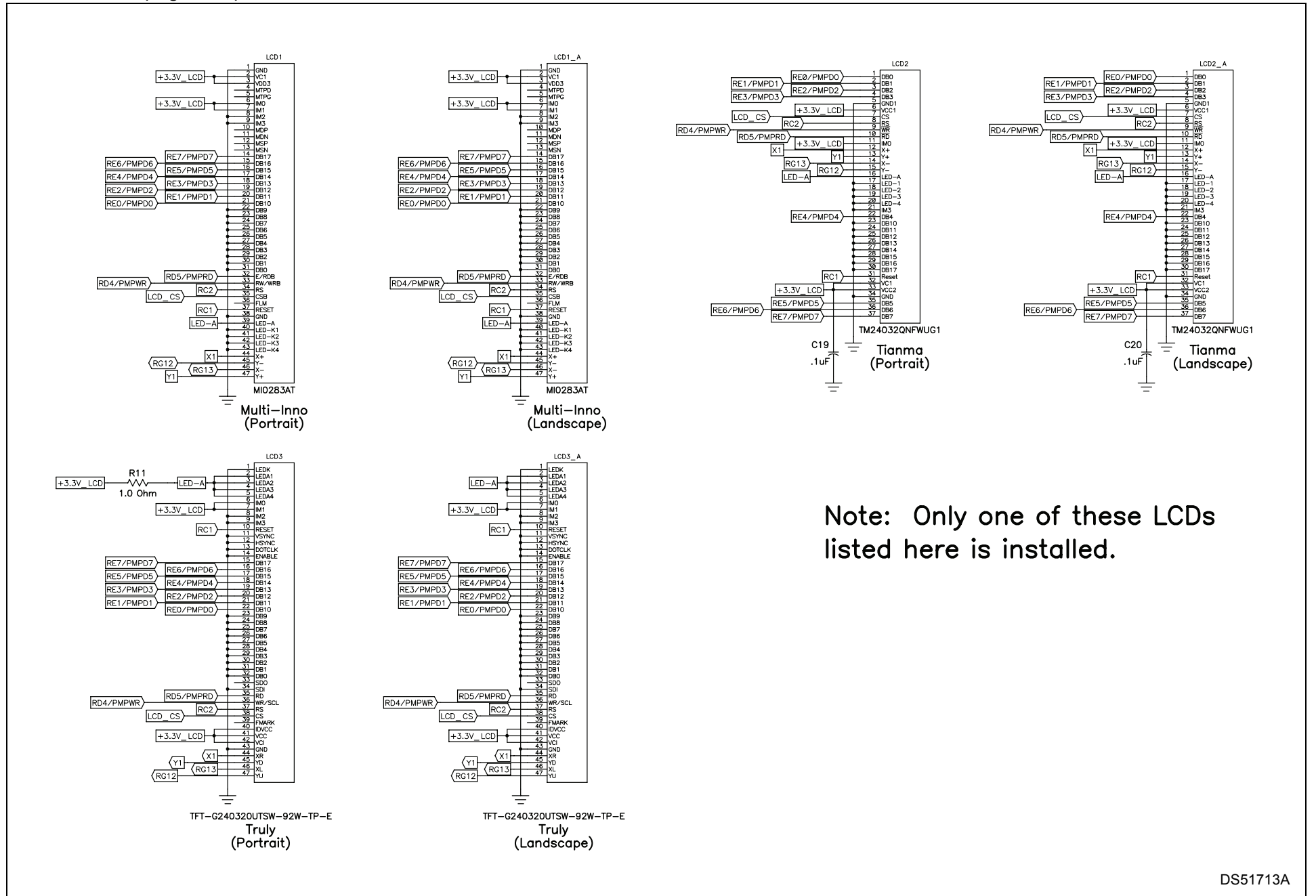
### Board Schematic (Page 1 of 3)



DS51713A



DS51713A



Note: Only one of these LCDs listed here is installed.

DS51713A