



Website: www.displaytech-us.com

Embedded Demonstration Board Product Specification

EMB028TFT-PTS DEMO

*2.8" Color TFT Display with Capacitive Touch
Demonstration Board*

Table of Contents

1. INTRODUCTION 3

2. GENERAL SPECIFICATIONS..... 3

3. MECHANICAL DRAWING 4

4. SCHEMATIC..... ERROR! BOOKMARK NOT DEFINED.

5. EXAMPLE FIRMWARE 6

1. Introduction

The Displaytech EMB028TFT-PTS DEMO is a demonstration and development board for the Displaytech DT028TFT 2.8" color TFT display with capacitive touchscreen. The display is controlled by a Microchip PIC24FJ256DA210 microcontroller with integrated graphics controller. Furthermore, the demonstration board includes on-board external SRAM for extra frame-buffer memory as well as SPI flash for storing fonts and images.

The touchscreen is a projected capacitance type with an I2C interface. The I2C address is 0x38 (7-bit) or 0x70/0x71 (8-bit write/read).

2. General Specifications

Item	Specification	Unit
LCD Resolution (Horizontal)	320	Line
LCD Resolution (Vertical)	240	Line
PCB Size (Horizontal)	70	mm
PCB Size (Vertical)	83	mm
Programming Interface	USB and PICKit	---
TFT Driver IC	ILI9341	---
Capacitive Touch Screen Driver	FT5346	
Microcontroller/Graphics Controller	PIC24FJ256DA210	---
SRAM Size	512	KB
External SPI Flash Size	2	MB
Power Supply	5 (from USB)	V

REMARK:

- 1) VCC: 3.3V±5%
- 2) MAIN LCD: 2.8", 65K TFT, TRANSMISSIVE, POSITIVE, TOP: -20°C TO 70°C, Tstg: -30°C TO 80°C, 6 O'CLOCK
- 3) MAIN LCD DRIVE IC: ILI9341
- 4) CONTROLLER IC: PIC24FJ256DA210-I/PT
- 5) TOUCH CONTROLLER: FT5346
- 6) BACKLIGHT: COLOR: WHITE, V(TTP): 3.2V, If: 80mA, NO. OF SMD LED: 4PCS
- 7) RoHS COMPLIANCE

PIN ASSIGNMENT(J3):

1	2	3	4	5	6
MCUR	MCUR	MCUR	MCUR	MCUR	MCUR

PIN ASSIGNMENT(J4):

1	2	3	4	5	6
GND	GND	GND	GND	GND	GND

PIN ASSIGNMENT(J5):

1	2	3
RB5	RB5	RB5

PIN ASSIGNMENT(J6):

1	2	3
RB5	RB5	RB5

GENERAL TOLERANCE:

LINEAR: ±0.20

ANGULAR: ±1/2°

ALL DIMENSIONS ARE IN METRIC UNLESS OTHERWISE SPECIFIED

SCALE: 1/1 OR NOTED

DISPLAYTECH LTD.

REVISIONS:

REV	ISSUE	ZONE	REVISIONS	DATE	CHK	APPD
1	1	1	REPLACE CONTROLLER IC	2009/11/16		
2	2	2	CHANGE TOUCH CONTROLLER	2009/11/16		

DEMONSTRATION BOARD FOR THE 2.8" TFT DISPLAY MODULE WITH CAPACITIVE TOUCH

BOTTOM VIEW

43.25±0.30 (PCB)

39.75±0.30 (PCB)

39.20±0.30 (BL/TP)

37.30±0.20 (BL/TP)

29.80 (TP V.A.)

29.30 (TP A.A.)

28.80 (A.A.)

31.90±0.20 (BL/TP)

29.80 (TP V.A.)

29.30 (TP A.A.)

28.80 (A.A.)

23.00±0.20 (BL/TP)

22.60 (TP V.A.)

22.10 (TP A.A.)

21.60 (A.A.)

23.00±0.20 (BL/TP)

22.60 (TP V.A.)

22.10 (TP A.A.)

21.60 (A.A.)

35.00±0.30 (PCB)

31.15±0.30

35.00±0.30 (PCB)

31.15±0.30

4.30±0.50

2.75±0.30

1.00

5.20 MAX.

43.25±0.30

30.50±0.30

23.47±0.50

10.77±0.50

10.30±0.50

4.97±0.30

0.11

45.20±0.50

35.00±0.30

33.10±0.30

32.30±0.30

36.15±1.00

35.00±0.30

32.30±0.30

35.00±0.30

36.15±1.00

0.85±0.30

13.20±0.60

21.48±0.50

39.75±0.30

18.30±0.30

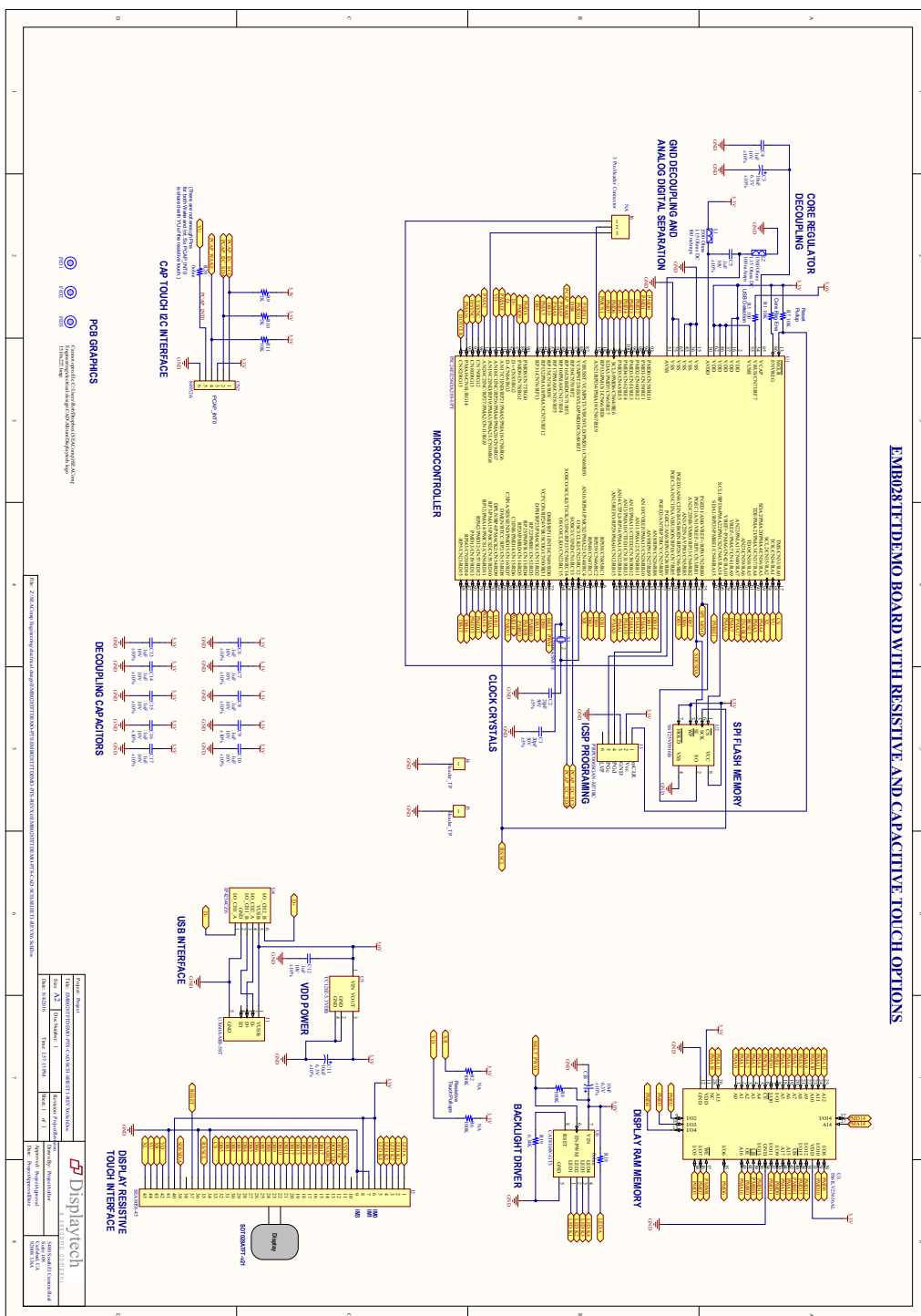
24.50±0.30

23.50±0.30

33.10±0.30

35.00±0.30

4. Schematic



5. Example Firmware

Example firmware running the Microchip Graphics Object Layer demonstration can be obtained from Displaytech sales.

Note: Microchip's MPLABX IDE and Pickit3 programmer will be required to run the demo. Both are available at <http://www.microchip.com>.

Detailed programming instructions are also available from Displaytech sales.

Mouser Electronics

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