CIRCUIT IDEAS DESIGN

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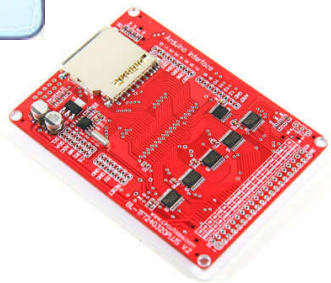
User manual

Arduino shield

BL-TFT240320PLUS V2



Features:

BL-TFT240320PLUS is development board contains LCD QVGA 3.2" TFT-LCD module with touch screen. Interface support 8/16 bit.

Design for complete front-end interface TFT LCD, touch screen, SD slot and SPI interface pin.

Special for ARDUINO LCD TFT shield include I2C RTC clock on board.

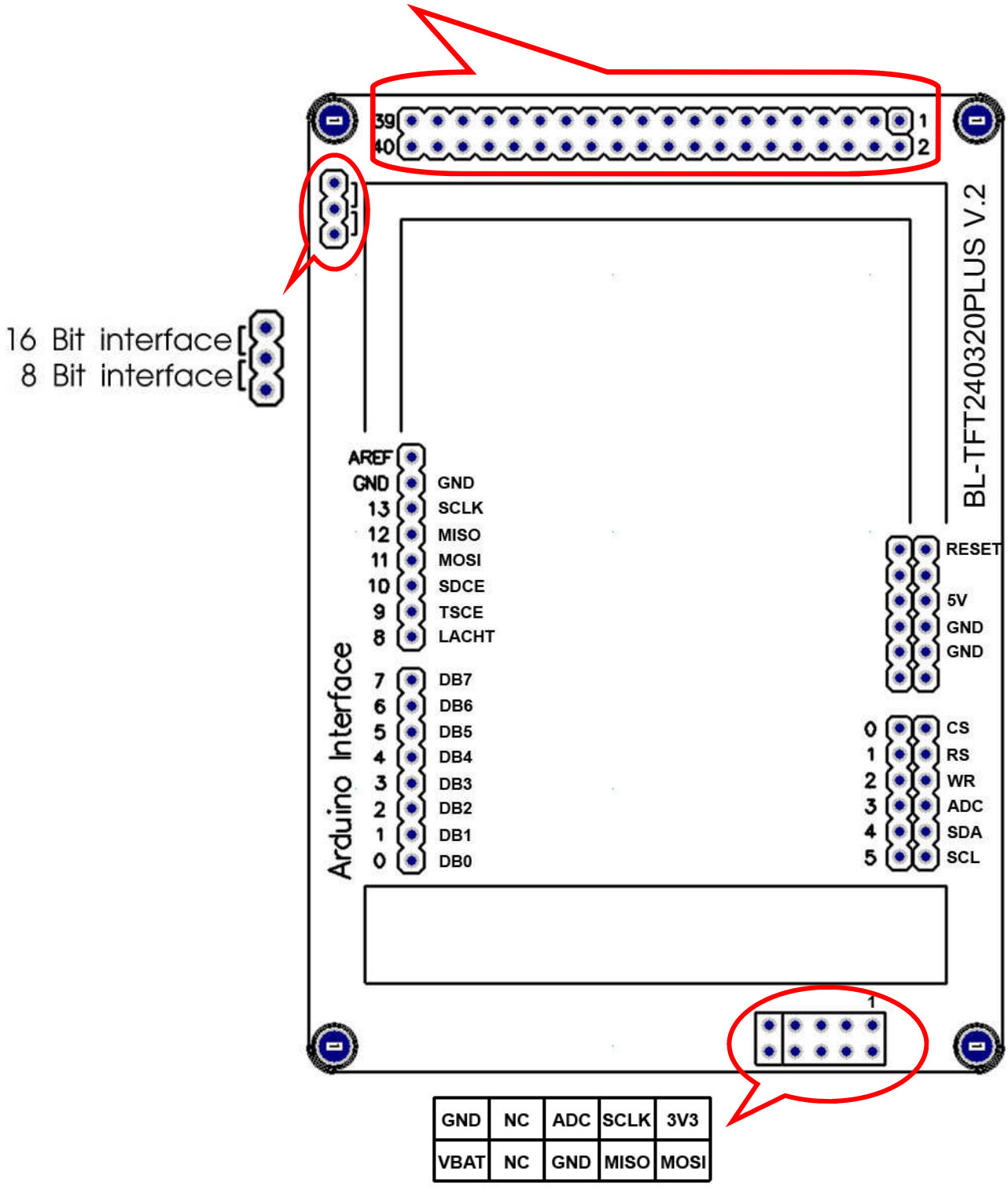
Easy to integrate with all range of microcontroller (AVR, ARM, ARDUINO, 8051, PIC, etc.

Integration:

- BL-TFT240320-BOARD V2 2.8/3.2" board
- TFT LCD 240x320 3.2-inch QVGA 262k
- Resolution of 240RGBx320 dots
- 262K TFT Color LCD
- LCD driver is SSD1289
- Touch screen controller ADS7843
- DS1307 I2C RTC (only for arduino)
- SD card slot with led card insert detection
- SPI bus interface
- ARDUINO plug-in pin with extra pad for testing
- Black light control with hardware or software
- 8/16 bit interface for microcontrollers
- 40 pin voltage level shifter 3.3-5.5 V for interface with microcontroller
- Power input voltage 5Vdc
- Frame Cover

Board pins out

GND	I/O	TCCE	BUSY	SCLK	MOSI	DB14	DB12	DB10	DB8	DB6	DB4	DB2	DB0	LATCH	RES	WR	CS	GND	GND
5V	5V	SDCE	ADC	PEN	MISO	DB15	DB13	DB11	DB9	DB7	DB5	DB3	DB1	NC	BACK LIGHT	RD	RS	5V	5V



40 Pins interface

40 PINS interface bus

PIN	Function	Description
1	GND	Ground.
2	VCC	5Vdc.
3	GND	Ground.
4	VCC	5Vdc.
5	CS	LCD select. Active low.
6	RS	Mode 0 = command 1= data.
7	WR	Write pin. Active low.
8	RD	Read pin. Active low.
9	RST	LCD reset. Active low.
10	BLC	Back light control pin. 0= OFF, 1= ON, NC= ON.
11	LATCH	8 bit latch DB8-15. use in 8 bit mode.
12	NC	Not connect.
13-20	DB0-DB7	LOW bit bus pins.
21-28	DB8-DB15	HI bit bus pins.
29	MOSI	MISO (Touch screen, SD card, SPI2).
30	MISO	MOSI (Touch screen, SD card, SPI2).
31	SCLK	SCK (Touch screen, SD card, SPI2).
32	PEN	Touch screen PEN enable.
33	BUSY	Touch screen busy.
34	I/O	SPI2 direct I/O pin.
35	TSCS	Touch screen select.
36	SDCS	SD card select.
37	CS2	SPI2 select.
38	VCC	5Vdc
39	GND	Ground
40	VCC	5Vdc.

Arduino pins interface

Arduino PINS interface

PIN	Function	Description
RESET	RST	Arduino reset pin to power on reset LCD.
VCC	VCC	5Vdc.
GND	GND	Ground.
Digital pin 0-7	DB0-DB7	LCD bus pins.
Digital pin 8	LATCH	8 bit latch DB8-15. use in 8 bit mode and arduino.
Digital pin 9	TS CE	Touch screen select.
Digital pin 10	SDCS	SD card select.
Digital pin 11	MOSI	MISO (Touch screen, SD card, SPI).
Digital pin 12	MISO	MOSI (Touch screen, SD card, SPI).
Digital pin 13	SCLK	SCK (Touch screen, SD card, SPI).
Analog pin 0	CS	LCD select. Active low.
Analog pin 1	RS	Mode 0 = command 1= data.
Analog pin 2	WR	Write pin. Active low.
Analog pin 3	ADC I/O	Free pin. (for SPI, analog or digital I/O pin).
Analog pin 4(SDA)	SDA	I2C SDA pin. Connect with ds1307 SDA pin.
Analog pin 5(SCL)	SCL	I2C SCL pin. Connect with ds1307 SCL pin.

Extra pins interface

SPI interface

PIN	Function	Description
1	VSS	Internal 3.3Vdc
2	MOSI	MOSI
3	MISO	MISO
4	SCLK	SCK
5	ADC I/O	Free pin. (for SPI, analog or digital I/O pin). Connect to arduino pin.
6	GND	Ground
7	NC	Not connect. Free pin for wiring test.
8	NC	Not connect. Free pin for wiring test.
9	GND	Ground
10	VBAT	DS1307 3V backup battery connector.

8/16 Bit Mode

PIN	Function	Description
1-2	8 Bit	8 bit mode (setting for Arduino)
2-3	16 Bit	16 bit mode. Not connect is 16 bit mode.