ER-AS-RA8875

Arduino Shield Datasheet

EastRising Technology Co., Limited

Attention:

A. Some specifications of IC are not listed in this datasheet. Please refer to the IC datasheet for more details.

B. The related documents for interfacing, demo code, ic datasheet are all available, please download from our web.

C. Please pay more attention to “INSPECTION CRITERIA” in this datasheet. We assume you already agree with these criterions when you place an order with us. No more recommendations.

REV	DESCRIPTION	RELEASE DATE
1.0	Preliminary Release	Mar-08-2016

CONTENTS

1.ORDERING INFORMATION

1.1 Order Number:

Part Number(Order Number)	Description
ER-AS-RA8875	Arduino Shield Designed for TFT LCD Display with RA8875 Controller Board

1.2 What's included in the package:

No	Standard Accessory Name	Quantity
1	EastRising Arduino Shield	1

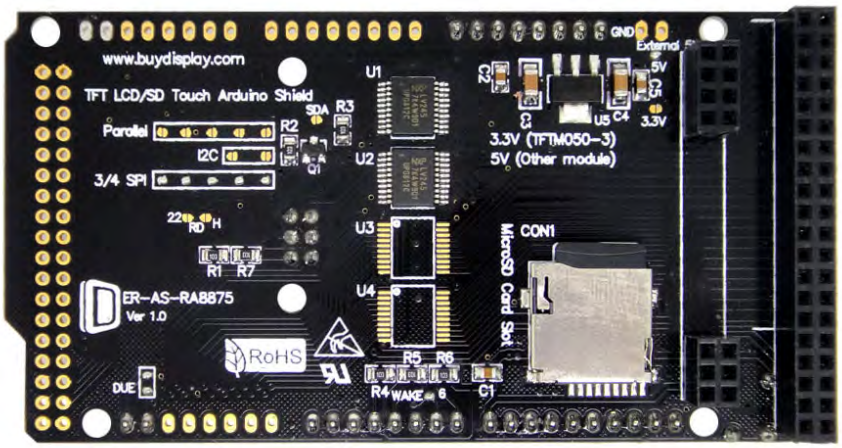
1.3 Compatible with following tft lcd modules:

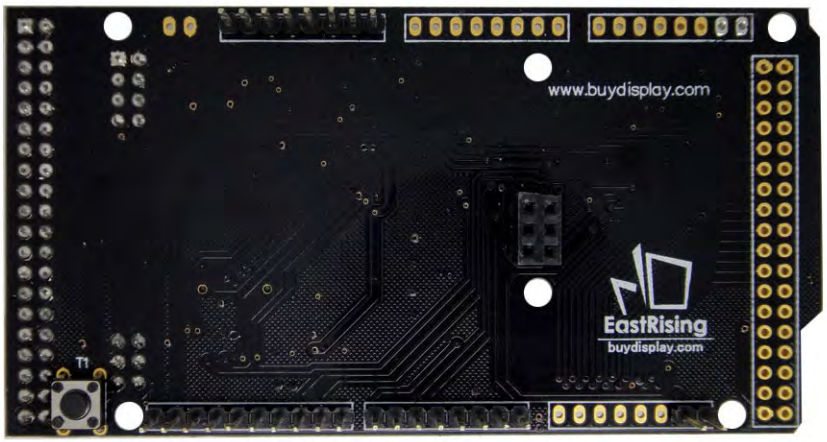
Part Number(Order Number)	Description
ER-TFTM043-3	4.3"TFT LCD Display with RA8875 Controller Board/480x272 Dots
ER-TFTM043A2-3-4170	4.3" Display Capacitive Touch screen w/RA8875 Controller/480x272 Dots
ER-TFTM043A2-7R	4.3"TFT LCD Display with RA8875 Controller Board/800x480 Dots
ER-TFT043A4-3-4267	4.3"TFT LCD Display with RA8875 Controller Board/480x272 Dots
ER-TFTM050-2	5"TFT LCD Display with RA8875 Controller Board/480x272 Dots
ER-TFTM050-3	5"TFT LCD Display with RA8875 Controller Board/800x480 Dots
ER-TFTM050A2-2-4847	5" Display Capacitive Touch screen w/RA8875 Controller/480x272 Dots
ER-TFTM050A2-3-3661	5" Display Capacitive Touch screen w/RA8875 Controller/800x480 Dots
ER-TFT050-6-4268	5"TFT LCD Display with RA8875 Controller Board/800x480 Dots
ER-TFTM070-5	7"TFT LCD Display with RA8875 Controller Board/800x480 Dots
ER-TFTM070-6	7"TFT LCD Display with RA8876 Controller Board/1024x600 Dots
ER-TFTM080-2	8"TFT LCD Display with RA8875 Controller Board/800x480 Dots
ER-TFTM090-2	9"TFT LCD Display with RA8875 Controller Board/800x480 Dots
ER-TFTM101-1	10.1"TFT LCD Display with RA8876 Controller Board/1024x600 Dots

1.4 Compatible with following Arduino Board:

Board Name	MCU	I/O
Arduino MEGA2560	ATMEGA2560	54
Arduino MEGA1280	ATMEGA1280	54
Arduino Due	AT91SAM3X8EA	54
Arduino UNO	ATMEGA328	14

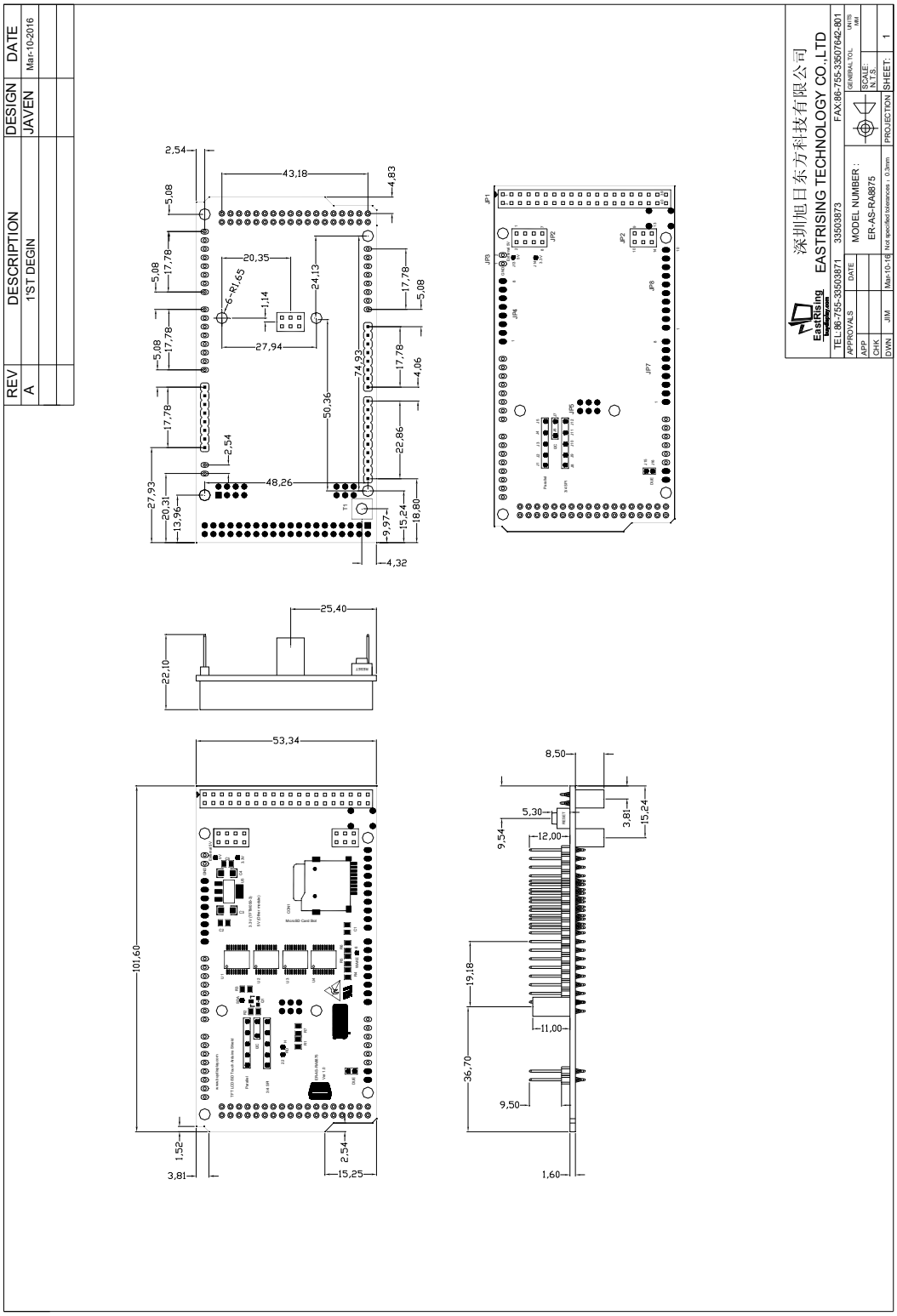
1.5 Image





2. OUTLINE DRAWING

2.1 Outline Drawing



3. ELECTRICAL SPEC

3.1 JP1-TFT LCD Module Input Interface

No	Symbol	Descriptions
1	VSS	Ground
2	VSS	Ground
3	VDD	Power Supply
4	VDD	Power Supply
5	Parallel Mode E_/RD	Enable/Read Enable When MCU interface (I/F) is 8080 series, this pin is used as RD# signal (Data Read) , active low. When MCU I/F is 6800 series, this pin is used as EN signal (Enable), active high.
	Serial Mode /SCS	Serial Mode Chip Select, Low active chip select pin. Chip select pin for 3-wire , 4-wire serial or I2C I/F.
6	Parallel Mode R/W_/WR	Write/Read-Write When MCU I/F is 8080 series, this pin is used as WR# signal (data write) , active low. When MCU I/F is 6800 series, this pin is used as RW# signal (data read/write control) . Active high for read and active low for write.
	Serial Mode SDO	3-wire SPI Data /4-wire SPI Data Output 4-wire SPI I/F: Data output for serial I/F. 3-wire SPI I/F: Bi-direction data for serial I/F IIC I/F: NC, if no use, please keep floating. If no use, please keep floating.
7	Parallel Mode /CS	Parallel Mode Chip Select Input Low active chip select pin.
	Serial Mode SDI	IIC data /4-wire SPI Data Input 4-wire SPI I/F: Data input for serial I/F. 3-wire SPI I/F: NC IIC I/F: Bi-direction data for serial I/F
8	Parallel Mode RS	Command / Data Select Input The pin is used to select command/data cycle. RS = 0, data Read/Write cycle is selected. RS = 1, status read/command write cycle is selected. In 8080 interface, usually it connects to “A0” address pin.
	SCLK	SPI Clock 3-wire, 4-wire Serial or IIC I/F clock

9	WAIT	Wait Signal Output This is a WAIT# output to indicate the RA8875 is in busy state. The RA8875 can't access MCU cycle when WAIT# pin is active. It is active low and could be used for MCU to poll busy status by connecting it to I/O port.
10	INT	Interrupt Signal Output The interrupt output for MCU to indicate the status of RA8875.
11	/RESET(NC)	Master synchronizes reset, Active Low. RC Reset circuit on board.
12	C86(NC)	MCU Interface Select 0: 8080 interface is selected 1: 6800 interface is selected Internally connected to the low level.
13	VSS	Ground
14	BL_CONTROL	BackLight control signal input.
15~30	DB0~DB15	Data Bus These are data bus for data transfer between MCU and RA8875. When setting register number and register data, DB[7:0] is used. When writing data to display RAM, DB[15:0] is used according to data bus mode setting. DB[15:8] will be input and should be pull-low or pull high when 8-bit data bus mode is used.
31	VSS	Ground
32	CTP_WAKE	An interrupt signal for the host to change F5206 from hibernates to active mode.
33	CTP_INT	An interrupt signal to inform the host processor that touch data is ready for read
34	CTP_SDA	Serial data input/output
35	CTP_SCL	Serial clock input
36	CTP_/RST	External low signal reset the chip. RC reset circuit on board, this pin can be left unconnected.
37	VDD	Power Supply
38	VDD	Power Supply
39	VSS	Ground
40	VSS	Ground

Note :CTP is the short for Capacitive Touch Panel. RTP is the short for 4-wire Resistive Touch Panel.

3.2 JP2-Arduino Board Output Interface

No	Symbol	Descriptions
1	VSS	Ground
2	VSS	Ground
3	VDD	Power Supply
4	VDD	Power Supply
5	Serial Mode /SCS	Serial Mode Chip Select, Low active chip select pin. Chip select pin for 3-wire , 4-wire serial interface.
6	Serial Mode SDO	4-wire SPI: Data output for serial I/F. 3-wire SPI: Bi-direction data for serial I/F IIC: NC, if no use, please keep floating. If no use, please keep floating.
7	Serial Mode SDI	4-wire SPI: Data input for serial interface. 3-wire SPI: NC IIC: Bi-direction data for serial interface
8	SCLK	SPI Clock 3-wire, 4-wire Serial or IIC interface clock
9	WAIT	Wait Signal Output This is a WAIT# output to indicate the RA8875 is in busy state. The RA8875 can't access MCU cycle when WAIT# pin is active. It is active low and could be used for MCU to poll busy status by connecting it to I/O port.
10	INT	Interrupt Signal Output The interrupt output for MCU to indicate the status of RA8875.
11	/RESET(NC)	Master synchronizes reset, Active Low. RC Reset circuit on board.
12	NC	No connect
13	VSS	Ground
14	BL_CONTROL	BackLight control signal input.

3.3 JP3- Arduino Board Output External Power Interface

No	Symbol	Descriptions
1	VSS	Ground
2	+5V	External +5V power input

Note: Please use external 5V(1A) power supply on JP3 if you wish the whole module works for a long time.

3.4 JP4-Arduino Board Output Interface

No	Symbol	Descriptions
1	NC	No connect
2	VSS	Ground
3	VSS	Ground
4	+5v	+5V Power
5	+3.3V	+3.3V Power
6	/RESET	Master reset
7	VSS	Ground
8	VSS	Ground

3.5 JP5-Arduino Board Output Interface

No	Symbol	Descriptions
1	VSS	Ground
2	NC	No connect
3	MOSI	SPI Master Output/Slave Input
4	SCLK	Serial clock
5	+5V	+3.3V Power
6	MISO	SPI Master Input/Slave Output

3.6 JP6-Arduino Board Output Interface

No	Symbol	Descriptions
1	SCL	Serial clock
2	SDA	Serial data input/output

3.7 JP7-Arduino Board Output Interface

No	Symbol	Descriptions
1	NC	No connect
2	NC	No connect
3	NC	No connect
4	LCD_WAIT(IO3)	LCD wait signal output . Arduino board digital IO 3
5	LCD_INT(IO4)	LCD interrupt signal output. Arduino board digital IO 4
6	SD_CS(IO5)	SD card chip select signal. Low active. Arduino board digital IO 5
7	CTP_WAKE(IO6)	An interrupt signal for the host to change CTP from hibernates to active mode. Arduino board digital IO 6
8	CTP_INT(IO7)	An interrupt signal to inform the host processor that CTP data is ready for read. Arduino board digital IO 7

3.8 JP8-Arduino Board Output Interface

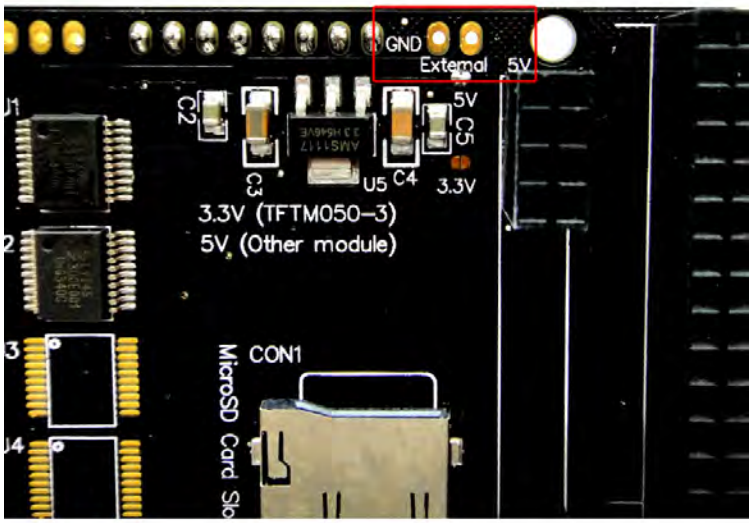
No	Symbol	Descriptions
1	BL_CONTROL	BackLight control signal Arduino board digital IO 8
2	LCD_RESET	LCD reset, Active Low. Arduino board digital IO 9
3	LCD_CS	LCD chip select signal. Low active. Arduino board digital IO 10
4	NC	No connect
5	NC	No connect
6	NC	No connect
7	VSS	Ground
8	NC	No connect
9	SDA1	Hardware I2C Serial data input/output
10	SCL1	Hardware I2C Serial clock

3.9 Jump Point Description

Function Description	Jump Method
Parallel Interface	J1-J5 Short and J6-J12 Open
I2C Interface	J6,J7 Short and J1~J5,J8~J12 Open
3/4 Wire SPI Interface	J8~J12 Short and J1~J7 Open
Used for Arduino Due Board or Capacitive Touch Panel	J15,J16 Short
3.3V Power Supply	J14 Short,J13 Open
5.0V Power Supply	J13 Short and J14 Open

3.10 Adding an External Power Supply

For 7 inch display or above, the high current is needed.But the current of arduino uno or arduino mega board is low, an external 5V power supply is needed. The below image shows the external power supply position on shield ER-AS-RA8875.



4. CARE AND HANDLING PRECAUTIONS

The kit is sold with a module mounted on it. If you attempt to modify the board to work with other modules, the warranty is void. For optimum operation of the module and demonstration board and to prolong their life, please follow the precautions below.

4.1 ESD (Electro-Static Discharge)

The circuitry is industry standard CMOS logic and susceptible to ESD damage. Please use industry standard antistatic precautions as you would for any other PCB such as expansion cards or motherboards.

4.2 Avoid Shock,Impact,Torque and Tension

◇ Do not expose the module to strong mechanical shock, impact, torque, and tension.
◇ Do not drop, toss, bend, or twist the module.
◇ Do not place weight or pressure on the module.

4.3 LCD&OLED Display Glass

◇ The exposed surface of the LCD "glass" is actually a polarizer laminated on top of the glass.To protect the soft plastic polarizer from damage, the module ships with a protective film over the polarizer. Please peel off the protective film slowly. Peeling off the protective film abruptly may generate static electricity.

◇ The polarizer is made out of soft plastic and is easily scratched or damaged. When handling the module, avoid touching the polarizer. Finger oils are difficult to remove.

◇ If the LCD panel breaks, be careful not to get the liquid crystal fluid in your mouth or eyes. If the liquid crystal fluid touches your skin, clothes, or work surface, wash it off immediately using soap and plenty of water.

◇ Be very careful when you clean the polarizer. Do not clean the polarizer with liquids. Do not wipe the polarizer with any type of cloth or swab (for example, Q-tips). Use the removable protective film to remove smudges (for example, fingerprints) and any foreign matter. If you no longer have the protective film, use standard transparent office tape . If the polarizer is dusty, you may carefully blow it off with clean, dry, oil-free compressed air.

4.4 Operation

◇ Use only the included AC adapter to power the board.

◇ Observe the operating temperature limitations: from -20°C minimum to +70°C maximum with minimal fluctuations. Operation outside of these limits may shorten the life and/or harm the display.

- ☐ At lower temperatures of this range, response time is delayed.
- ☐ At higher temperatures of this range, display becomes dark. (You may need to adjust the contrast.)

◇ Operate away from dust, moisture, and direct sunlight.

4.5 Storage and Recycling

- ◇ Store in an ESD-approved container away from dust, moisture, and direct sunlight.
- ◇ Observe the storage temperature limitations: from -30°C minimum to +80°C maximum with minimal fluctuations. Rapid temperature changes can cause moisture to form, resulting in permanent damage.
- ◇ Do not allow weight to be placed on the modules while they are in storage.
- ◇ Please recycle your outdated displays at an approved facility.

That's the end of the datasheet.

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标题:	ER-TFTM070-4_Datasheet
主题:	7 inch tft lcd module display with controller board ssd1963
作者:	www.buy-display.com
关键词:	7 inch tft lcd module display with controller board ssd1963
备注:	
创建日期:	2013-09-02 15:29:00
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