COM1000A Module
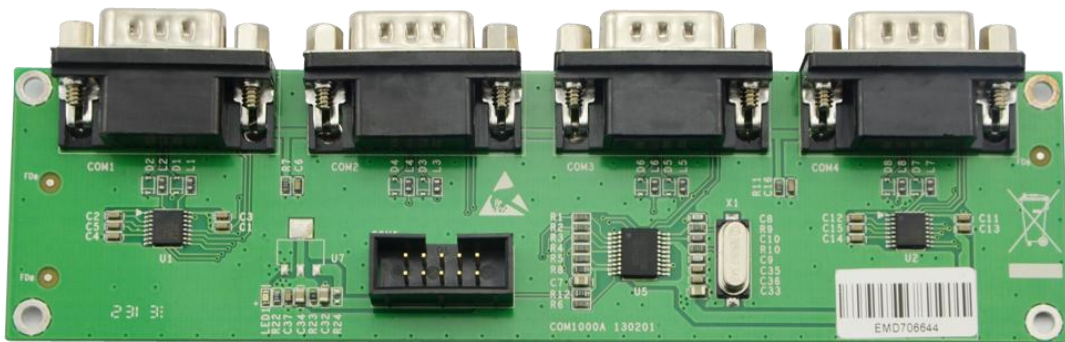

User Manual

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Revision History:

Version	Date	Description
1.0	August 6, 2013	Original Version

Table of Contents

Chapter 1 Product Overview

1.1 Brief Introduction

COM1000A is a SPI-to-UART module designed by Shenzhen Embest Technology for LPC1788, LPC18xx and LPC43xx MCU families dedicatedly. It can be working with Embest SBC1788 (a single board computer), EDM1070xx and EDM1043xx (embedded display module).

1.1.1 Packing List

- COM1000A Module×1
- IDC Cable（12cm,10-10P,2.54mm pitch）

1.1.2 Product Features

- Operating Temperature: -10 ℃ ~ 70 ℃
- Storage Temperature: -65 ℃ ~ 150 ℃
- Operating Humidity: 0% ~ 90% (Non-Condensing)
- Power Supply: 3.3V/0.5A
- PCB Layers: 2-layer PCB
- SPI data transfer rate of up to 5Mbps
- Baud rate, data bits and Parity of serial interfaces can be different from each other
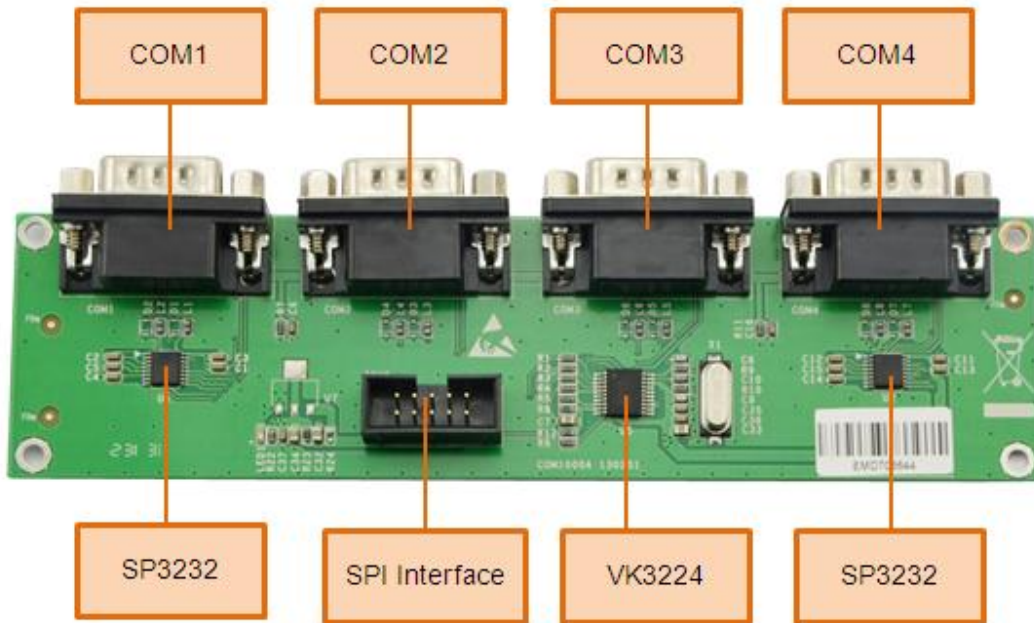
1.2 Components/Interfaces

Figure 1-1 Components/Interfaces(with DB9)

Note: The module comes with D-Sub DB-9 Connectors (Male, Right Angle) by default. Terminal block header and plug are optional. The output signals are available in TTL and RS232 level.
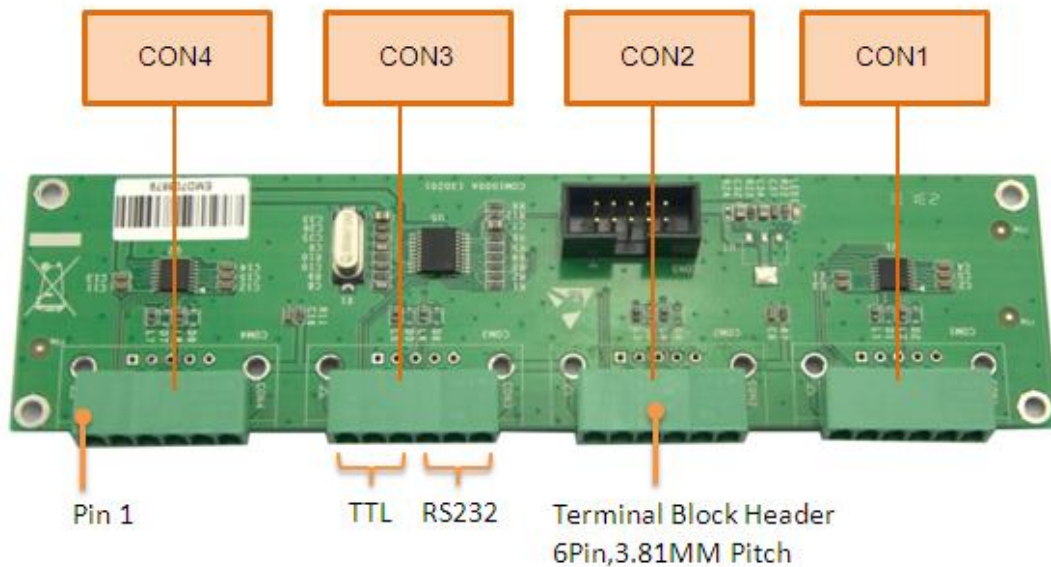

Figure 1-2 Components/Interfaces(with Terminal block header)

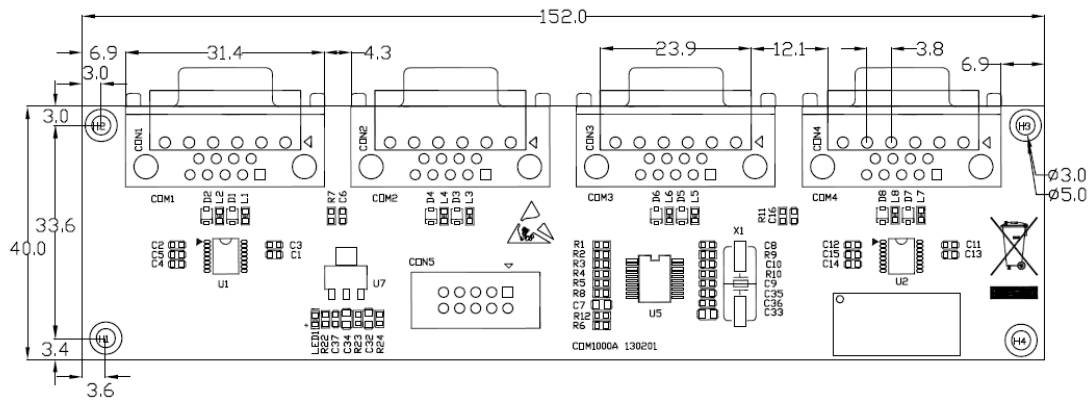## 1.3 Hardware Dimensions

Unit: mm

Figure 1-3   Hardware dimensions(Top Layer)

Top Layer Component Height$_{MAX}$ = 12.5 mm

Board Thick =1.6mm, 2 layer PCB

Chapter 2 Interface Definitions

This chapter has two tables with contains the pin definitions of two interfaces on COM1000A – RS232 serial interface and SPI Flash interface.

2.1 RS232 Serial Interface

Table 2-1 RS232 Serial Interface

Pins	Names	Descriptions
1	NC	NC
2	RXD	Receive data
3	TXD	Transit data
4	NC	NC
5	GND	GND
6	NC	NC
7	NC	NC
8	NC	NC
9	NC	NC

2.2 SPI Interface

Table 2-2 SPI Interface

Pins	Names	Descriptions
1	SPI_MOSI	Master Out Slave In for SPI
2	VDDIN	+3.3V Power In
3	NC	NC
4	SPI_SSEL2	NC
5	SPI_SSEL1	Slave Select for SPI
6	IRQ1	Interrupt pin
7	SPI_SCK	Serial clock for SPI
8	IRQ2	NC
9	SPI_MISO	Master In Slave Out for SPI
10	GND	GND

Chapter 3 Tests

This chapter contains the detailed steps of how to test COM1000A module by using Embest SBC1788 single board computer and EDM1070xx/EDM1043 embedded display module.

3.1 Preparations

Before you start to test, please configure a HyperTerminal first according to the parameters shown in the figure below;
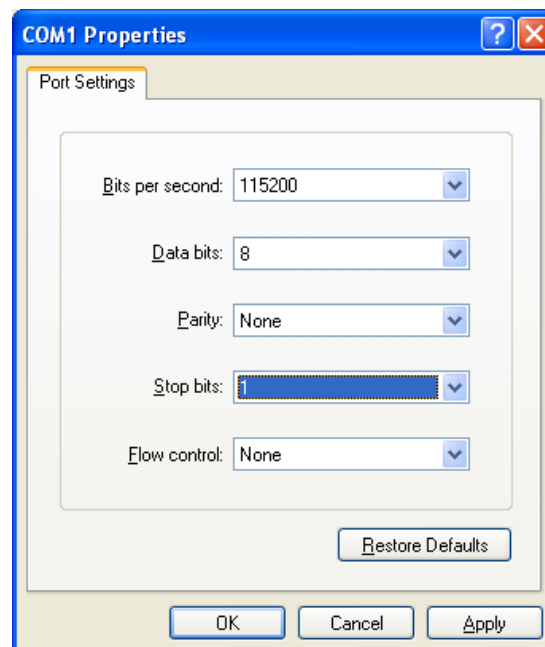

Figure 3-1　Configuring HyperTerminal

3.2 Starting Test

3.2.1　Using SBC1788

1）Connect COM1000A to the CON12 interface of SBC1788 using a flat cable;

2）Connect COM1000A to the serial interface of a PC using a cross-over serial cable, and then open HyperTerminal and power on SBC1788;

3） Recompile the project which can be found under Codes\SBC1788 \Application_Examples\SPI_UART_Example of the CD-ROM provided along with SBC1788, and then download the compiled program to SBC1788;

4） Reboot SBC1788 to run the program; HyperTerminal window will display the following information;

Table 3-1 COM1000A Testing Information 1

COM1000A Test Example.

Type any characters in HyperTerminal window; if the characters you typed are displayed in the window, the COM1000A module is working properly.

3.2.2　Using EDM1070xx/EDM1043xx

1） Connect COM1000A to the CON10 interface (please refer to "**SPIFI/SPI**" interface on Figure 1-1 in EDM1070xx user manual) of EDM1070xx/EDM1043xx using a flat cable;

2） Connect COM1000A to the serial interface of a PC, and then open HyperTerminal and power on EDM1070xx/EDM1043xx;

3） Recompile the project which can be found under Codes\EDM1043xx & EDM1070xx\Application_Examples\SPI_UART_Example of the CD-ROM provided along with EDM1070xx/EDM1043xx, and then download the compiled program to EDM1070xx/EDM1043xx;

4） Reboot EDM1070xx/EDM1043xx to run the program; HyperTerminal window will display the following information;

Table 3-2 COM1000A Testing Information 1

COM1000A Test Example.

Type any characters in HyperTerminal window; if the characters you typed are displayed in the window, the COM1000A module is working properly.

Technical Support and Warranty

Technical Support

Embest Technology provides its product with one-year free technical support including:

- Providing software and hardware resources related to the embedded products of Embest Technology;

- Helping customers properly compile and run the source code provided by Embest Technology;

- Providing technical support service if the embedded hardware products do not function properly under the circumstances that customers operate according to the instructions in the documents provided by Embest Technology;

- Helping customers troubleshoot the products.

The following conditions will not be covered by our technical support service. We will take appropriate measures accordingly:

- Customers encounter issues related to software or hardware during their development process;

- Customers encounter issues caused by any unauthorized alter to the embedded operating system;

- Customers encounter issues related to their own applications;

- Customers encounter issues caused by any unauthorized alter to the source code provided by Embest Technology;

Warranty Conditions

1） 12-month free warranty on the PCB under normal conditions of use since the sales of the product;

2） The following conditions are not covered by free services; Embest Technology will charge accordingly:

- Customers fail to provide valid purchase vouchers or the product identification tag is damaged, unreadable, altered or inconsistent with the products.

- Products are damaged caused by operations inconsistent with the user manual;

- Products are damaged in appearance or function caused by natural disasters (flood, fire, earthquake, lightning strike or typhoon) or natural aging of components or other force majeure;

- Products are damaged in appearance or function caused by power failure, external forces, water, animals or foreign materials;

- Products malfunction caused by disassembly or alter of components by customers or, products disassembled or repaired by persons or organizations unauthorized by Embest Technology, or altered in factory specifications, or configured or expanded with the components that are not provided or recognized by Embest Technology and the resulted damage in appearance or function;

- Product failures caused by the software or system installed by customers or inappropriate settings of software or computer viruses;

- Products purchased from unauthorized sales;

- Warranty (including verbal and written) that is not made by Embest Technology and not included in the scope of our warranty should be fulfilled by the party who committed. Embest Technology has no any responsibility;

3） Within the period of warranty, the freight for sending products from customers to Embest Technology should be paid by customers; the freight from Embest to customers should be paid by us. The freight in any direction occurs after warranty period should be paid by customers.

4） Please contact technical support if there is any repair request.

Note:
Embest Technology will not take any responsibility on the products sent back without the permission of the company.

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