Hardware User Manual

EXT-BF5xx-EXP-TR V1.x

...maximum performance at minimum space

Contact

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The information herein is given to describe certain components and shall not be considered as a guarantee of characteristics.

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Information

For further information on technology, delivery terms and conditions and prices please contact Bluetechnix (http://www.bluetechnix.com).

Warning

Due to technical requirements components may contain dangerous substances.

The Core Modules and development systems contain ESD (electrostatic discharge) sensitive devices. Electro-static charges readily accumulate on the human body and equipment and can discharge without detection. Permanent damage may occur on devices subjected to high-energy discharges. Proper ESD precautions are recommended to avoid performance degradation or loss of functionality. Unused Core Modules and Development Boards should be stored in the protective shipping

BLACKFIN Products

<u>Core Modules:</u>

CM-BF533: Blackfin Processor Module powered by Analog Devices' single core ADSP-BF533 processor; up to 600MHz, 32MB SDRAM, 2MB flash, 2x60 pin expansion connectors and a size of 36.5x31.5mm.

CM-BF537E: Blackfin Processor Module powered by Analog Devices' single core ADSP-BF537 processor; up to 600MHz, 32MB SDRAM, 4MB flash, integrated TP10/100 Ethernet physical transceiver, 2x60 pin expansion connectors and a size of 36.5x31.5mm.

CM-BF537U: Blackfin Processor Module powered by Analog Devices' single core ADSP-BF537 processor; up to 600MHz, 32MB SDRAM, 4MB flash, integrated USB 2.0 Device, 2x60 pin expansion connectors and a size of 36.5x31.5mm.

TCM-BF537: Blackfin Processor Module powered by Analog Devices' single core ADSP-BF537 processor; up to 500MHz, 32MB SDRAM, 8MB flash, a size of 28x28mm, 2x60 pin expansion connectors, Ball Grid Array or Border Pads for reflow soldering, industrial temperature range -40°C to +85°C.

CM-BF561: Blackfin Processor Module powered by Analog Devices' dual core ADSP-BF561 processor; up to 2x 600MHz, 64MB SDRAM, 8MB flash, 2x60 pin expansion connectors and a size of 36.5x31.5mm.

CM-BF527: The new Blackfin Processor Module is powered by Analog Devices' single core ADSP-BF527 processor; key features are USB OTG 2.0 and Ethernet. The 2x60 pin expansion connectors are backwards compatible with other Core Modules.

CM-BF548: The new Blackfin Processor Module is powered by Analog Devices' single core ADSP-BF548 processor; key features are 64MB DDR SD-RAM 2x100 pin expansion connectors.

TCM-BF518: The new Core Module CM-BF518 is powered by Analog Devices' single core ADSP-BF518 processor; up to 400MHz, 32MB SDRAM, up to 8MB flash. The 2x60 pin expansion connectors are backwards compatible with other Core Modules.

<u>Development Boards:</u>

EVAL-BF5xx: Low cost Blackfin processor Evaluation Board with one socket for any Bluetechnix Blackfin Core Module. Additional interfaces are available, e.g. an SD-Card.

DEV-BF5xxDA-Lite: Get ready to program and debug Bluetechnix Core Modules with this tiny development platform including an USB-Based Debug Agent. The DEV-BF5xxDA-Lite is a low cost starter development system including a VDSP++ Evaluation Software License.

DEV-BF548-Lite: Low-cost development board with one socket for Bluetechnix CM-BF548 Core Module. Additional interfaces are available, e.g. an SD-Card, USB and Ethernet.

DEV-BF548DA-Lite: Get ready to program and debug Bluetechnix CM-BF548 Core Module with this tiny development platform including an USB-Based Debug Agent. The DEV-BF548DA-Lite is a low-cost starter development system including a VDSP++ Evaluation Software License.

EXT-Boards: The following Extender Boards are available: EXT-BF5xx-AUDIO, EXT-BF5xx-VIDEO, EXT-BF5xx-CAM, EXT-BF5xx-EXP-TR, EXT-BF5xx-USB-ETH2, EXT-BF5xx-AD/DA, EXT-BF548-EXP and EXT-BF518-ETH. Furthermore, we offer the development of customized extender boards for our customers.

Software Support:

BLACKSheep: The BLACKSheep VDK is a multithreaded framework for the Blackfin processor family from Analog Devices that includes driver support for a variety of hardware extensions. It is based on the real-time VDK kernel included within the VDSP++ development environment.

LabVIEW: LabVIEW embedded support for Bluetechnix Core Modules is done by Schmid-Engineering AG: http://www.schmid-engineering.ch

uClinux: All the Core Modules are fully supported by uClinux. The required boot loader and uClinux can be downloaded from: http://blackfin.uClinux.org.

Upcoming Products and Software Releases:

Keep up-to-date with all the changes to the Bluetechnix product line and software updates at: http://www.bluetechnix.com .

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BLACKFIN Design Service

Based on more than five years of experience with Blackfin, Bluetechnix offers development assistance as well as custom design services and software development.

1   Introduction

The EXT-BF5xx-EXP-TR Board is an extender board that can be plugged on all Blackfin based Development and Evaluation Boards.

1.1   Overview

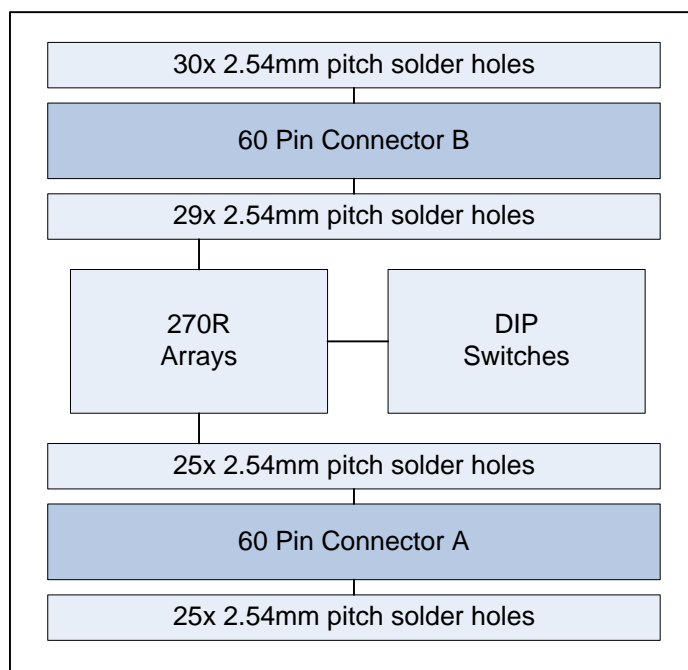The EXT-BF5xx-EXP-TR Board includes the following components.

| 30x 2.54mm pitch solder holes |
| 60 Pin Connector B |
| 29x 2.54mm pitch solder holes |

| 270R Arrays | DIP Switches |

| 25x 2.54mm pitch solder holes |
| 60 Pin Connector A |
| 25x 2.54mm pitch solder holes |

Figure 1-1: Overview of the EXT-BF5xx-EXP-TR Board

- **113 Expansion Holes**
- **12 270R Arrays**
- **6 DIP Switches**
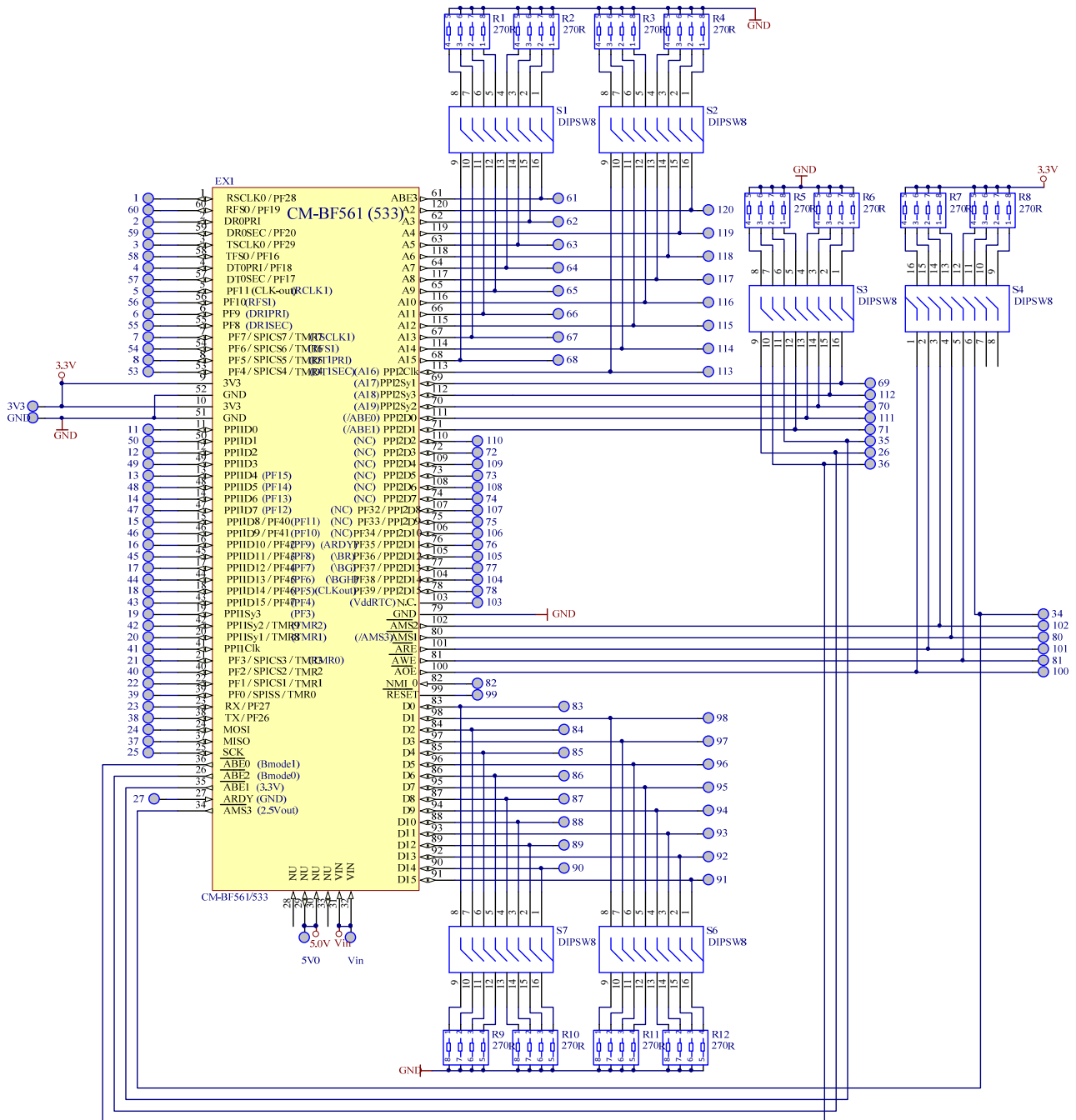
2 Specification

2.1 Schematics

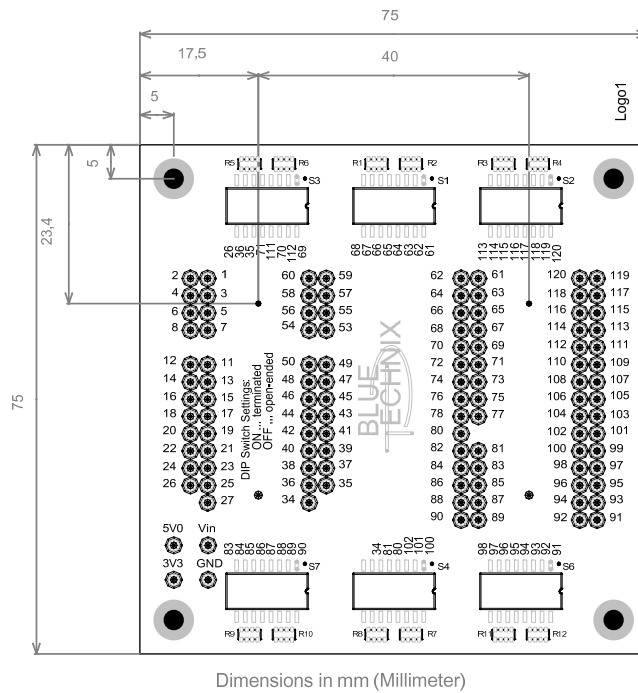Figure 2-1: Schematics of the EXT-BF5xx-EXP-TR Board

2.2 Mechanical Outline

Dimensions in mm (Millimeter)

Figure 2-2: Mechanical Outline – TOP
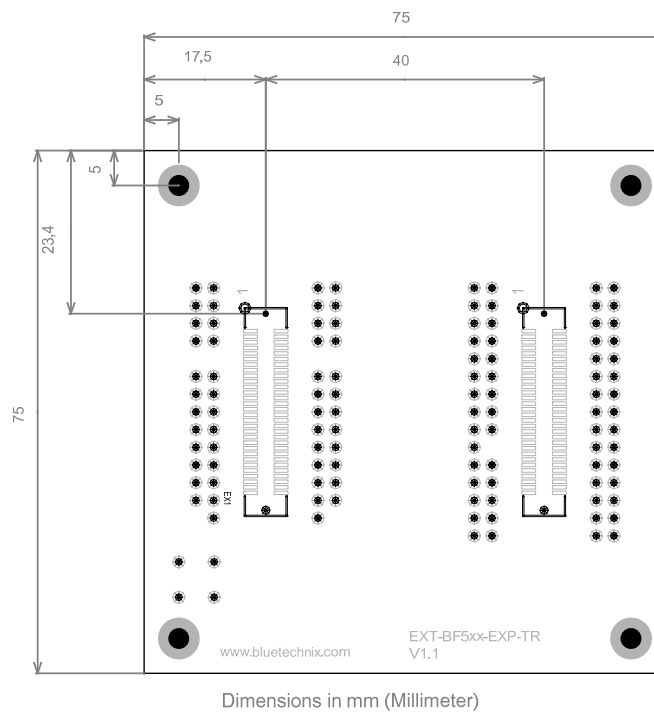

Dimensions in mm (Millimeter)

Figure 2-3: Mechanical Outline – BOTTOM

2.3   DIP Switches

Using switches S1, S2, S3, S6 and S7 it is possible to tie the connected lines over a 270 Ohm resistor to ground.

The switch S5 can be used to connect all the lines over a 270 Ohm resistor to 3V3.

3 Anomalies

For the latest information regarding anomalies for this product, please consult the product home page:

http://www.bluetechnix.com/

4 Product Changes

Version	Changes
1.1	First release

Table 4-1: Product Changes

5 Document Revision History

Version	Date	Document Revision
1	2010-02-08	First release

Table 5-1: Document Revision History