Introduction

The Micromodule series are OEM modules, based on Xilinx Spartan-3 platform FPGA. Many components like USB 2.0 transceiver, configuration Flash, power supply and optionally SDRAM are available on a tiny footprint of only 50,7 x 43,6 mm. A large number of configurable I/Os are provided via B2B mini-connectors. Designed as a ready-to-use plug-in module for carrier boards, they integrate perfectly in battery-powered, hand held or USB-powered applications.

The Micromodules can easily be modified on customer request and are available in versions with and without SDRAM and with different FPGA sizes.

Features

- High-density plug-in Spartan-3 module
- USB 2.0 interface
- Platform Flash for in-system configuration
- 64 Kbit serial EEPROM
- Power supply via USB or external 5 Volt input
- Low cost and flexible
- Multiple micromodules are stackable
- Flexible expansion via high-density board-to-board connectors
- Prototyping-Carrier board available for evaluation

Applications

- USB 2.0 Device development
- IP development
- Digital signal processing
- General-purpose prototyping platform
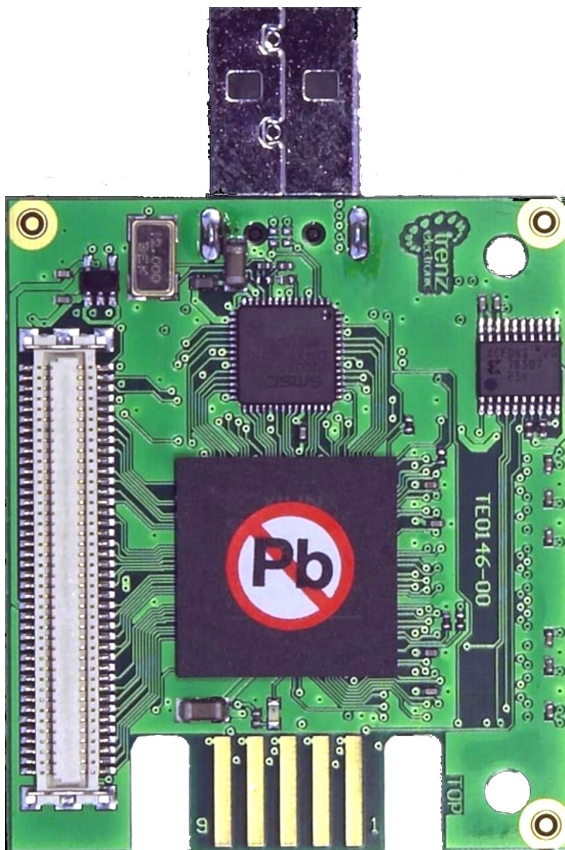- OEM Module on custom Hardware

Figure 2: Micromodule with SDRAM

Figure 1: Micromodule without SDRAM

Available Support

- High Speed USB 2.0 Core available for purchase
- High Speed USB 2.0 demo available for download
- Xilinx ISE WebPACK™ FPGA design environment, including design entry, simulation and synthesis
- VHDL example project with source code
- Board schematic
- CAD libraries for custom carrier board design
- Data sheets of major components

All documentation is provided in English.

Overview
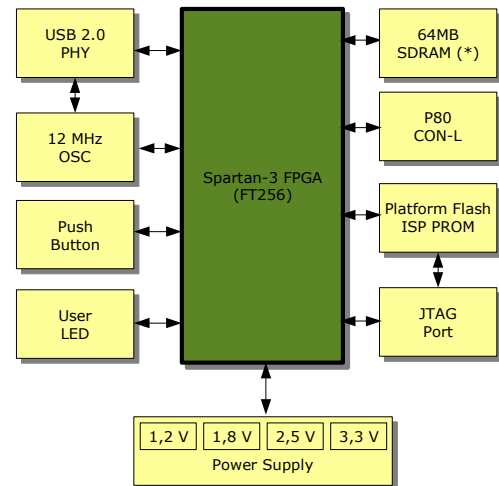

Figure 3: FPGA Micromodule Board Overview

(*)For the micromodule without SDRAM:
B2B connector (P80 CON-R) instead of SDRAM

Specifications

Product	TE0140-04L	TE0140-04	TE0140-04B	TE0146-00
FGPA	XC3S200-4FT256C	XC3S400-4FT256C	XC3S1000-4FT256C	XC3S1000-4FT256C
SDRAM	No SDRAM			MT48LC2M32B2P-7, 64 Mbyte
Syst. Gates	200K	400K	1000K	1000K
Platform Flash	1 Mbit	2 Mbit	4 Mbit	4 Mbit
EEPROM	64 Kbit	64 Kbit	64 Kbit	64 Kbit
Block RAM	216 Kbit	288 Kbit	432 Kbit	432 Kbit
Buttons	1 x LED, 1 x push button			1 x LED
Free IO's	120			55
External connectors	2 x 80 pin high-density B2B connectors			80pin B2B connector
Clock	30MHz or 60MHz via USB PHY			
USB Interface	USB 2.0 USB 3250 from SMCC			
Power supply	3.7 to 5 Volt input via B2B or USB			
Dimensions	50,7mm x 43,6mm			