INI CORE

System-on-Chip from Spec to Silicon

ProASIC PLUS

System Design Board SDB-750/1000

Features

- ◆ Easy-to-Use Development Board
  - ◆ Operates in Standalone Mode
- ◆ 1,000,000 System Gates ProASIC^{PLUS} from Actel
- ◆ ARM7TDMI CPU Subsystem Using AT91R40807 from Atmel
- ◆ eCOS Operating System from RedHat
- ◆ 2 MByte SRAM, 16 MByte FLASH
- ◆ 64-bit wide SRAM (PC100 DIMM)
- ◆ Compact Flash Slot
- ◆ Serial I/O: UART, I2C, CAN, LVPECL
- ◆ User Interface with LCD, LEDs and Keys
- ◆ In-System-Programming Support
  - ◆ CPU reprograms ProASIC^{PLUS}
- ◆ LCD Display 2 line, 16 Characters each
- ◆ PMC Expansion, Supporting
  - ◆ IEEE P1386.1
  - ◆ PCIMG 2.15 (PTMC)
  - ◆ 64-bit PCI
- ◆ 2 CPU Extension Slots
- ◆ Prototype Area 16 x 16 Pins
- ◆ Versatile Clock Circuitry
- ◆ Real Time Clock with Backup Battery

Product Description

Inicore's System Design Board SDB-1000 provides a versatile platform for your next development. An ARM based CPU subsystem with 2 MBytes of SRAM and 16 MBytes of program memory (FLASH) allows to operate the board in a standalone mode. It is complemented with an up to one million gate ProASIC^{PLUS} FPGA from Actel.
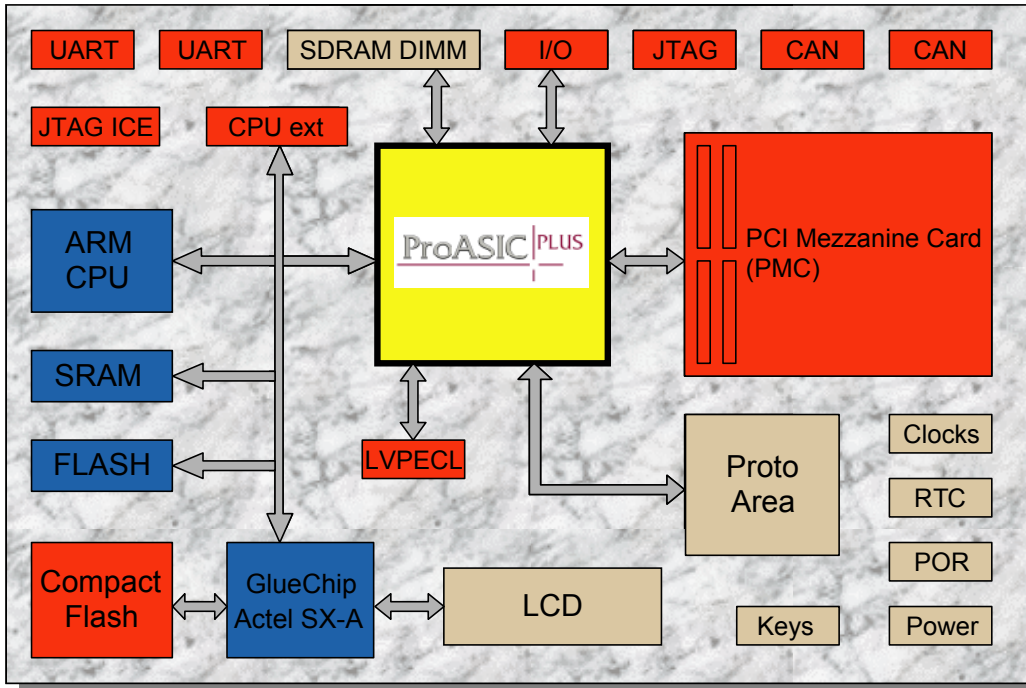
The SDB-1000 can be used in a wide range of applications. Thanks to the two CANbus channels it nicely targets the industrial control sector. The PMC port with the PTMC extension opens the door to the telecom sector. Additional interfaces can be added using Compact Flash interface, the CPU bus extension or the prototyping area.

Applications

- ◆ Development and Prototyping Board for ProASIC^{PLUS}
- ◆ Industrial Applications
- ◆ Networking and Communication
- ◆ Multimedia and Video
- ◆ Portable and Wireless Instruments
- ◆ IP Core Evaluations Platform
- ◆ System-on-Chip Verification

Actel and ProASIC^{PLUS} are Trademarks of Actel Corp. All other brands or product names are the property of their respective holders.

Block Diagram System Design Board SDB-1000

ProASIC^{PLUS} Features

- Up to 1,000,000 System Gates
- Reprogrammable Flash Technologie
- No Configuration Device required
- Maximum Design Security
- Live at Power up
- High-Speed I/Os
  - 2 LVPECL
- Unique Clock Conditioning
  - 2 On-Chip PLL
  - up to 240 MHz
  - Clock Phases 90, 180 & 270º
- On-Chip Memories up to 198K-bits 2 Port SRAM
- ISP (In System Programming)
- Efficient Hierarchical Routing
- ASIC Design Methodology and Design Flow

Interfaces and Hardware Support

The SDB-1000 is designed to support real System-on-Chip applications. The external CPU can be disabled and replaced with a controller residing inside the ProASIC^{PLUS} device.

All external resources such as SRAM and FLASH memory are available to the internal CPU.

As shown in the system block diagram, a wide range of interfaces are available.

Software Support

The SDB-1000 runs the eCos operating system from RedHat. Ample of system resources such as 2 Mbyte SRAM and 16 Mbyte FLASH memory are available for the application program. Software design is supported with the GCC tool suite running on Linux and Windows platforms. The JTAG in-circuit emulator (ICE) interface eases system debugging. Also, a serial port can be used to interface to a GDB running on a host computer.

To ease software development, a monitor application is provided using the LCD display, the keyboards and LEDs as the user interface.

In-System Programming

The SDB-1000 takes advantage of the unique features of the ProASIC^{PLUS} devices. It provides full support to reprogram the Flash based FPGA from the CPU. All required infrastructures such as DC/DC converters to create the programming voltages are available on the board. The Compact Flash interface can be used to transfer new programming files from the PC to the system. This accelerates system development and enables system upgrades in the field.

The ProASIC^{PLUS} can be programmed through a standard JTAG header using Silicon Sculptor II or Flash Pro or from the on-board ARM micro-controller.

Deliverables

The SDB-1000 Kit is ready to use and comes with:

- Development Board
- User Guide
- Power Supply 4 Amps
- RS-232 Cable
- Demo Design

Contact Inicore

Additional information can be found on www.inicore.com/sdb-750/1000

For Technical Questions
info@inicore.com

For Sales:
sales@inicore.com

Actel and ProASIC^{PLUS} are Trademarks of Actel Corp. All other brands or product names are the property of their respective holders.