Compact PCI LEON3-FT
Development Board
GR-CPCI-UT699

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Description

The GR-CPCI-UT699 development board has been designed to support development and fast prototyping of systems based on the Aeroflex UT699 32-bit Fault-Tolerant LEON3-FT SPARC V8 Processor.
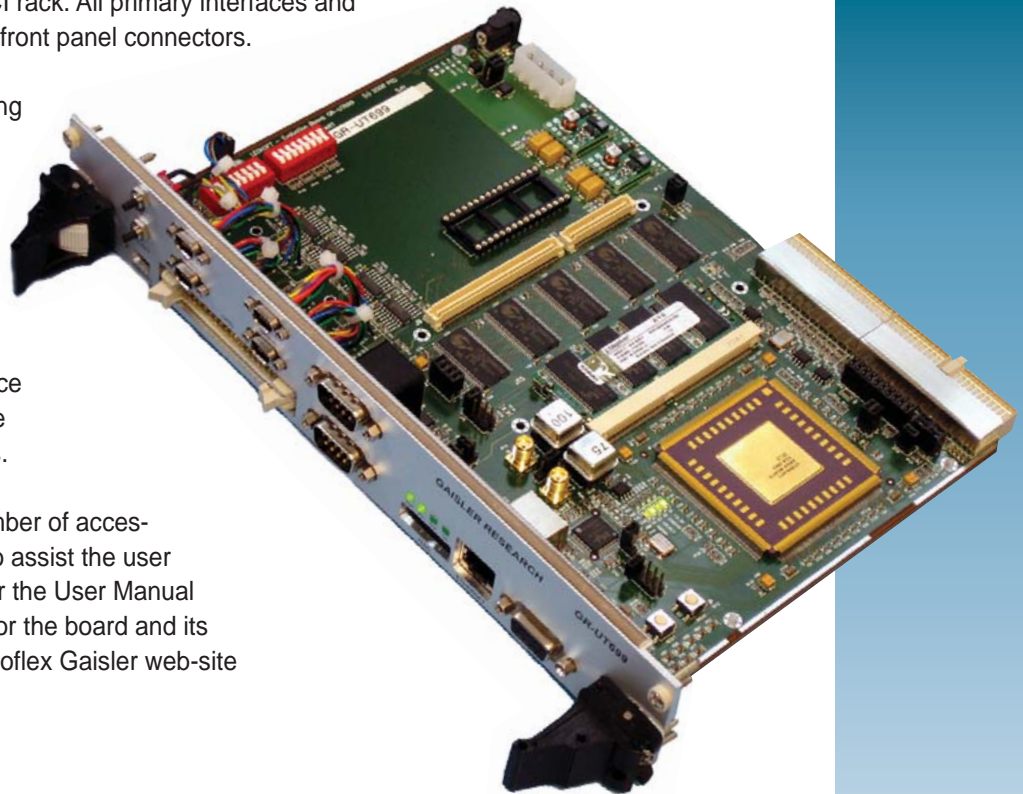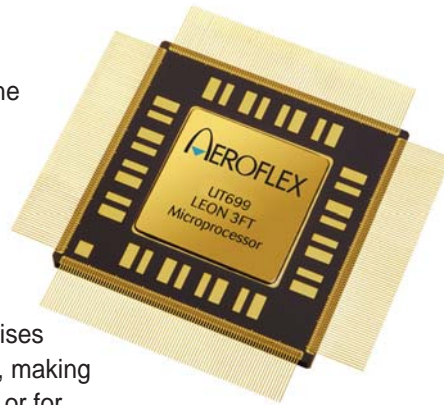
The Aeroflex UT699 device is targeted for use in high reliability applications and incorporates failure tolerance by design with features including internal TMR, parity protection and EDAC for external memories. The GR-CPCI-UT699 board comprises a custom designed PCB with a 6U 8HP Compact PCI front panel, making the board suitable either for stand-alone bench top development, or for installation in a 6U Compact PCI rack. All primary interfaces and functions are accessible on the front panel connectors.

The board is capable of operating either as a stand-alone board, or as a compact PCI plug-in card in either the System slot or Peripheral slots. Expansion to user's peripherals and circuits can be implemented either in an adjacent slot via the PCI interface or as a mezzanine board via the memory expansion connections.

Aeroflex Gaisler provides a number of accessories and mezzanine boards to assist the user in prototyping their systems. For the User Manual and more detailed information for the board and its features, please refer to the Aeroflex Gaisler web-site (www.aeroflex.com/gaisler).

Features

- UT699 32-bit Fault-Tolerant LEON3-FT SPARC V8 Processor
- Compact PCI plug-in format
- On-board memory:
  - SDRAM SODIMM module
  - SRAM
  - FLASH PROM
  - EEPROM
  - Additional memory via memory expansion connector
- Power, reset, clock and auxiliary circuits

- Interfaces:
  - Two CAN interfaces
  - Four SpaceWire interfaces
  - One serial UART interface
  - 10/100 Mbit Ethernet
  - DSU - Serial (over USB converter) interface
  - DSU - JTAG (over JTAG connector) interface
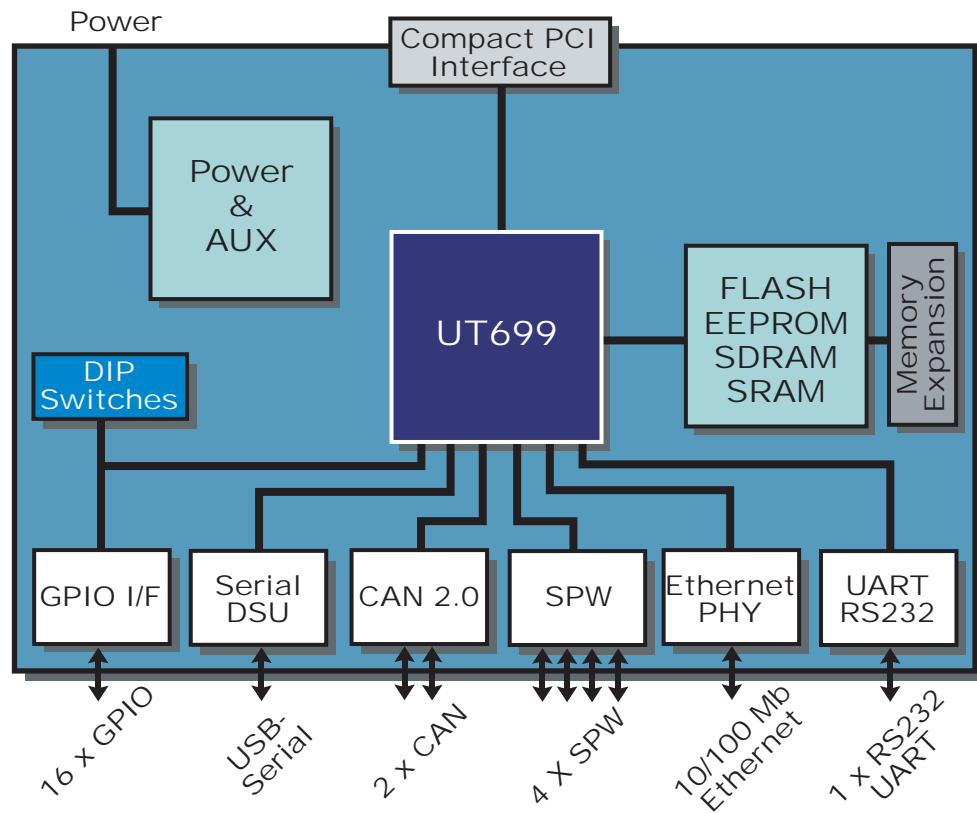 - GPIO general purpose input/output

LEON3-FT applications and support

The LEON3-FT processor is a fault-tolerant synthesizable VHDL model of a 32-bit processor compliant with the SPARC V8 architecture developed by Aeroflex Gaisler. The LEON3-FT processor has been incorporated in numerous Aerospace, Industrial and Consumer electronic designs.

For more information on the LEON3-FT core, the VHDL model, synthesis, configuration, hardware and software development tools, IP core development and Real-Time Operating Systems, please refer to the Aeroflex Gaisler web-site (www.aeroflex.com/gaisler).

Specifications

- Aeroflex UT699 in 352-pin Ceramic Quad Flat Package
- Processor core frequency: 75 MHz
- Compact PCI plug-in format (6U 8HP, 32 bit, 33 MHz)
- Configurable for System and Peripheral slot operation
- Standard memory options:
  - SDRAM, SODIMM (64 bit wide up to 512 MByte)
  - SRAM, on-board 80 Mbit (1 bank x 2 Mword x 40 bit) (optional second bank is not fitted as standard)
  - FLASH PROM, on-board 128 Mbit (4 Mword x 32 bit)
  - EEPROM DIL32 socket (1 bank x 1 Mbit, x8 bit wide)

- 33 MHz, 32-bit PCI connector
- Four SpaceWire interfaces (LVDS, MDM9-S)
- Two CAN bus interfaces (ISO11898, SUB-D9)
- Serial UART (RS232, SUB-D9)
- 10/100 Mbit Ethernet (RJ45)
- USB Mini-B connector for DSU/UART I/F
- JTAG connector for DSU I/F
- Memory and user I/O expansion connectors
- On-board power regulation allows operation from compact PCI slot or stand-alone with +5V supply

CONTACT INFORMATION

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