

RAD750[®] 6U CompactPCI extended single-board computer

FEATURES AND CAPABILITIES

The 6U CompactPCI extended single-board computer employs the PowerPC RAD750[®] micro-processor, the radiation-hardened version of the IBM PowerPC750 microprocessor. The companion PowerPC bridge ASIC provides access to the memory and the PCI version 2.2 backplane bus. Additional on-board interfaces include SpaceWire and 1553.

Supports variable-memory configurations:

SRAM:

- 16 MB standard with options to 44 MB and ECC
- Device-sparing

SUROM:

- 64 kB and ECC
- EEPROM for engineering units (256 kB)
- PROM for flight units (64 kB)

EEPROM:

- 4 MB and ECC

Software features

- Example startup ROM and VxWorks board-support package provided for all hardware configurations.
- Green Hills Software's INTEGRITY real-time operating system as an alternate board-support package.
- Hardware reference manuals and software users guide provided.
- Software developed for the RAD6000[®] processor is easily ported to RAD750 computers.
- All compilers currently available for the commercial PowerPC 750 are fully compatible with the RAD750 processor.
- Operating systems for PowerPC 750-based computers are easily ported to RAD750 computers.
- Virtutech offers a RAD750 simulator.

Form factor

- CompactPCI 6U (233 mm x 220 mm)
- Weight: <2.0 Kg

Memory

- SRAM: configurable 8 MB to 36 MB and EDAC and device-sparing
- SpW SRAM: configurable 4 MB to 8 MB
- SUROM: 256 or 64 kB and EDAC
 - 256 kB EEPROM for engineering use
 - 64 kB RH-PROM for flight use
- EEPROM: 4 MB and EDAC

Interfaces

- Dual 1553 interfaces
- Four-port SpaceWire interface for high-speed data rate of up to 132Mb/second

Radiation-hardness

- Total dose: >100 Krad (SI)
- Latchup-immune

Performance

- SPECmark (est.): 5.8 SPECint95 @ 132 MHz
 - 3.5 SPECfp95 @ 132 MHz
- Dhrystone 2.1: 260 MIPS @ 132 MHz

Power supply

- 5V ± 10% and 3.3V ± 5% (2.5V generated by on-board regulator)

Power dissipation

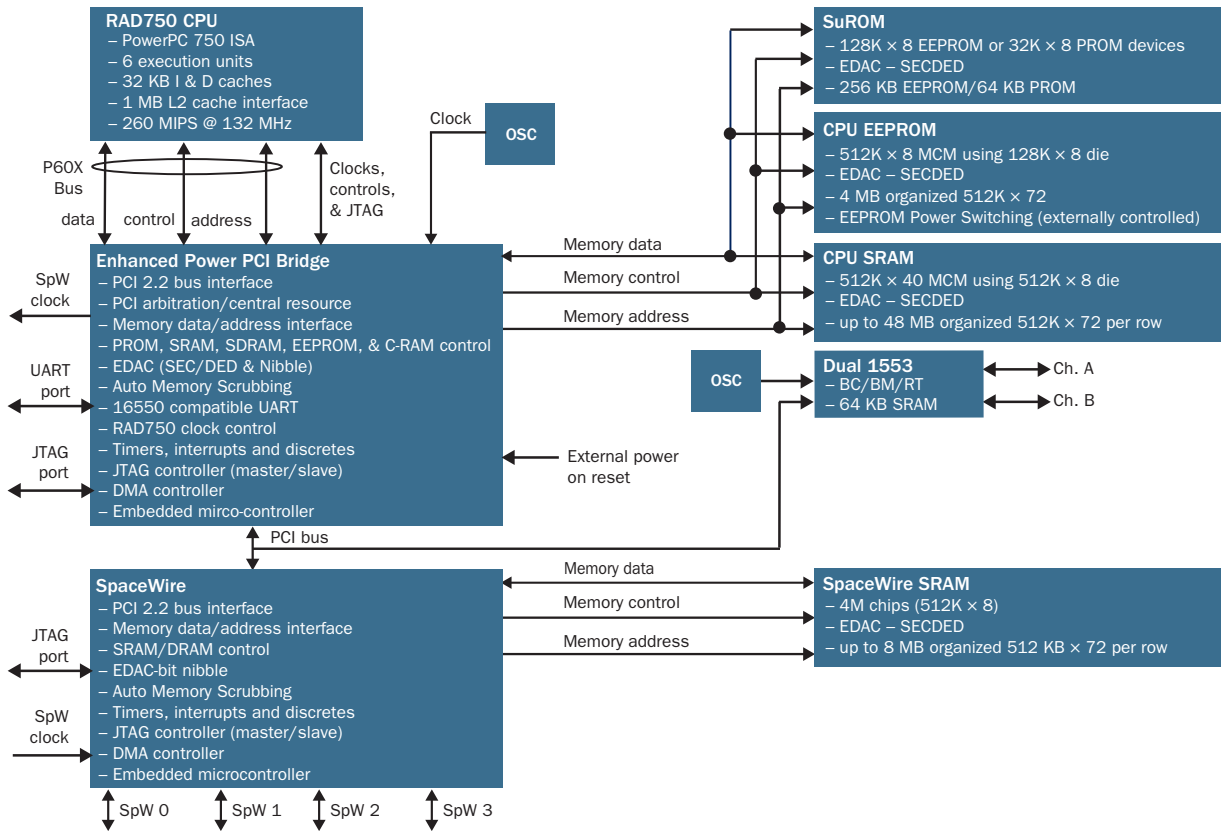
- <25W

Rail temperature range

- -20°C to +50°C



RAD750 6U EXTENDED FLEXIBLE ARCHITECTURE



RAD750® FAMILY OF PRODUCTS

RAD750® radiation-hardened PowerPC microprocessor
 RAD750® 6U CompactPCI single-board computer
 RAD750® 6U CompactPCI extended single-board computer

RAD750® 3U CompactPCI single-board computer
 RAD750® space computers Virtutech Simics virtual platform
 RAD750® custom single-board computer

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