

RAD750[®] 6U CompactPCI single-board computer

FEATURES AND CAPABILITIES

The 6U CompactPCI single-board computer, available in seven configurations, employs the PowerPC RAD750[®] microprocessor, the radiation-hardened version of the IBM PowerPC750 microprocessor. The companion Power PCI Bridge ASIC provides access to the memory and the PCI version 2.2 backplane bus.

Supports variable memory configurations:

SRAM:

- 16-MB standard
- Options from 4 MB to 48 MB and ECC
- Device-sparing

SUROM:

- 64 kB and ECC
- EEPROM for engineering units (256 kB to 1 MB)
- PROM for flight units (64 kB to 256 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 can serve as an alternate board support package.
- Hardware reference manuals and software user guide provided.
- Software developed for the RAD6000[®] processor is easily ported to RAD750 computers.
- All compilers currently available for the commercial PowerPC 750 microprocessor are fully compatible with the RAD750.
- Operating systems for PowerPC 750-based computers are easily ported to RAD750 computers. VxWorks and INTEGRITY operating systems are available.
- Virtutech offers a RAD750 simulator.

Form factor

- CompactPCI 6U (233 mm x 160 mm)
- CompactPCI 6U-220 (233mm x 220mm)
- Weight: 1000 to 1220 grams, varies with memory

Memory

- SRAM: 4 to 48 MB
- EEPROM: 4 MB

Radiation-hardness

- Total dose: >100 Krad (Si)
- SEU: 1.9 E-4 errors/card-day (90% W. C. GEO) varies with orbit
- Latchup-immune

Performance

- >260 Dhrystone 2.1 MIPS @ 132 MHz
- 4.3 SPECint95 4.6 SPECfp95 at 132 MHz

Power supply

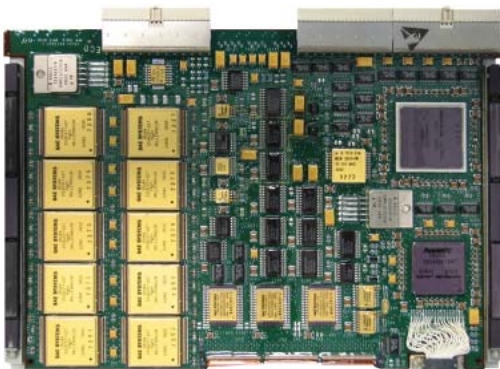
- 5V ± 10% and 3.3V ± 5% (2.5V generated via onboard regulator)

Power dissipation

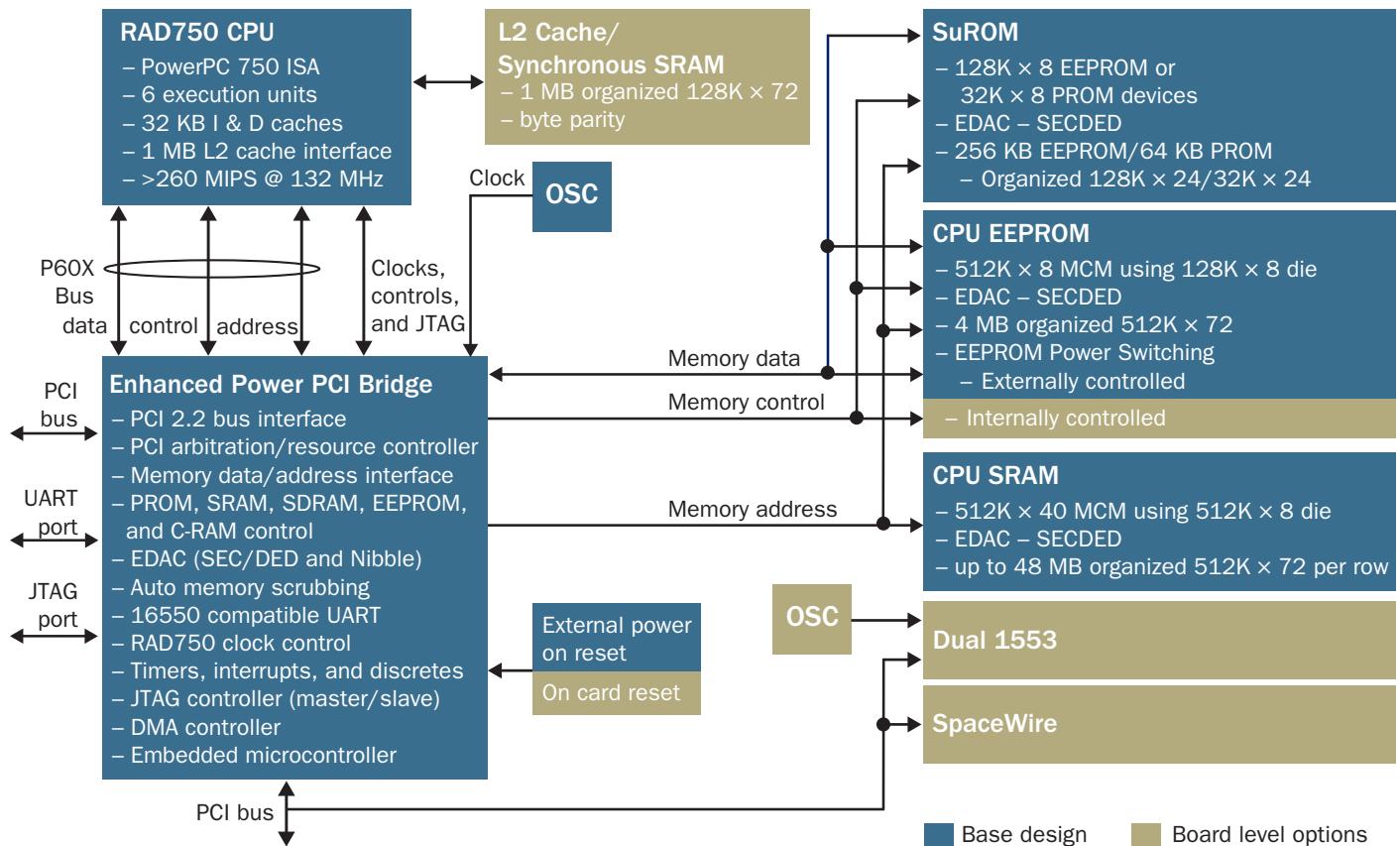
- 11 to 14W

Rail temperature range

- -28°C to +70°C



RAD750 6U 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 computers

FOR MORE INFORMATION, CONTACT:

BAE Systems
 9300 Wellington Road
 Manassas, Virginia 20110-4122
 Telephone 1 800 RAD750A or 1 866 530 8104
 www.baesystems.com/sse

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