

TMPR4955BFG/CFG, TMPR4956CXBG (TX4955/TX4956) 64-Bit RISC Processor

Highlights

- SysAD bus support
- High-performance, 400 MHz frequency
- Low-power consumption of only 0.3 watts at maximum frequency (internal)
- Low-power consumption of only 0.5W at 400 MHz

Description

The TX4955/TX4956 is a 64-bit RISC (Reduced Instruction Set Computer) microprocessor that is a low-cost, low-power microprocessor developed for interactive consumer applications including set-top terminals, LBP (Laser Beam Printer), and video games.

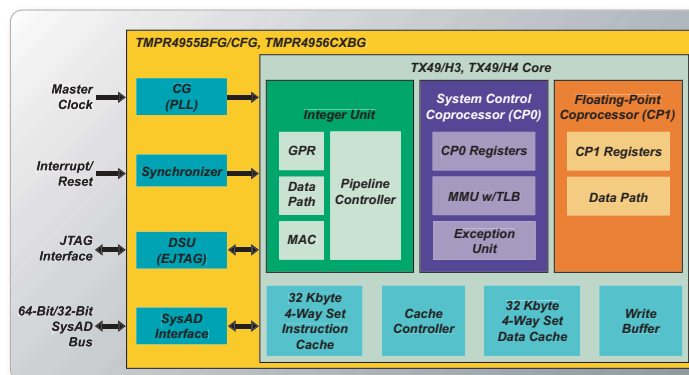
Features

- True 64-bit microprocessor with TX49/H3 core (BFG), TX49/H4 core (CFG/CXBG)
- Optimized 5-stage pipeline
- 32-bit system address/data bus (TX4955); 64-bit/32-bit system address/data bus (TX4956)
- 32-bit physical address space and 64-bit virtual address space
- SysAD bus interface with R5000 or R4300 compatible protocol (TX4955)
- SysAD bus interface with R5000 or R4300 compatible protocol (TX4956)
- On-chip 32-Kbyte instruction cache and 32-Kbyte data cache
- Low-power consumption

- BFG: (typ. 0.375W – internal)
- 3.3V/1.5V dual power supply
- I/O: 3.3V
- Internal: 1.5V
- CFG/CXBG: (typ. 0.3W – internal)
- 3.3V or 2.5V/1.2V dual power supply
- I/O: 3.3V or 2.5V
- Internal: 1.2V
- Reduced power mode (halt)

- Data cache prefetching
- Memory management unit
 - Contains 48-double entry JTLB, 2-entry instruction TLB, and 4-entry data TLB
- Software compatibility with all MIPS processors
 - MIPS I, II, and III Instruction Set Architecture (ISA)
- EJTAG (Enhanced JTAG) debug support
- Maximum operating frequency
 - Internal: 200/300/333 MHz (BFG), 350/400/450 (CFG/CXBG)
 - External: 133 MHz (200 MHz version: 100 MHz)
- Package:
 - 160-pin QFP (28 mm x 28 mm, 0.65 pitch): TX4955 (BFG/CFG)
 - 217-pin PFBGA (13 mm x 13 mm, 0.8 pitch): TX4956 (CXBG)

Block Diagram



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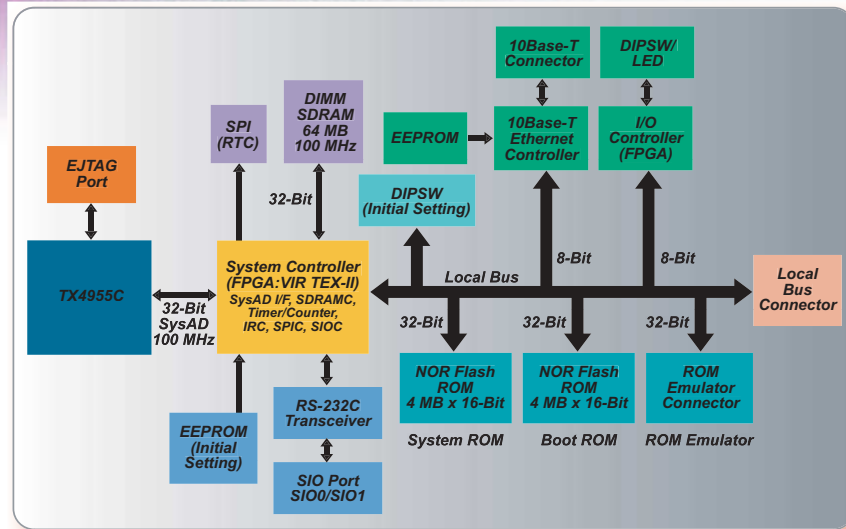
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TX4955CFG Reference Board Block Diagram



TX System RISC Development Tools

Product Name: TMPR4955BFG/CFG

Reference Boards:

Main Ref. Board—RBHMA4100/BF/In Development

Operating Systems:

Wind River—VxWorks—Yes/In Development
Monta Vista—Linux—In Development

Development Tools:

Green Hills—MULTI 2000 Compiler & Debugger
Red Hat—GNU Pro Compiler & GDB Debugger
Wind River—VisionICE II Emulator with Debugger
YDC (Yokogawa) AdvicePlus Emulator with Debugger
Macraigor TX49 Emulator

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