

ARM710/610

32-bit RISC Processor

OVERVIEW

The new ARM710 32-bit RISC processor delivers industry leading power- and price-performance from a compact package. Capable of sustaining 24 Dhrystone 2.1 MIPS at 28 MHz from a 3.3 V supply, the ARM710 is ideal for cost sensitive high performance applications. The power consumption at 3.3V is just 105 mW (equivalent to 229 MIPS/Watt), which makes the ARM710 by far the best choice for high performance on a tight power budget.

To help the processor maintain high data throughput from inexpensive memory, the ARM710 has an 8kByte cache and a write buffer. A comprehensive Memory Management Unit (MMU) offers full memory

protection facilities, including caching and write buffer control for different areas of memory.

The ARM610 has similar features but with a smaller 4kB cache. Delivering 30 MIPS at 33 MHz from 5V while consuming just half a watt, the ARM610 is ideal when the power budget is not as demanding.

FEATURES

- High performance processor 32-bit RISC
- Very low power consumption
- 3.3 V operation gives even higher performance per watt
- Fully static design-clock can be stopped to save power
- Flexible Memory Management Unit
- Big or little endian addressing

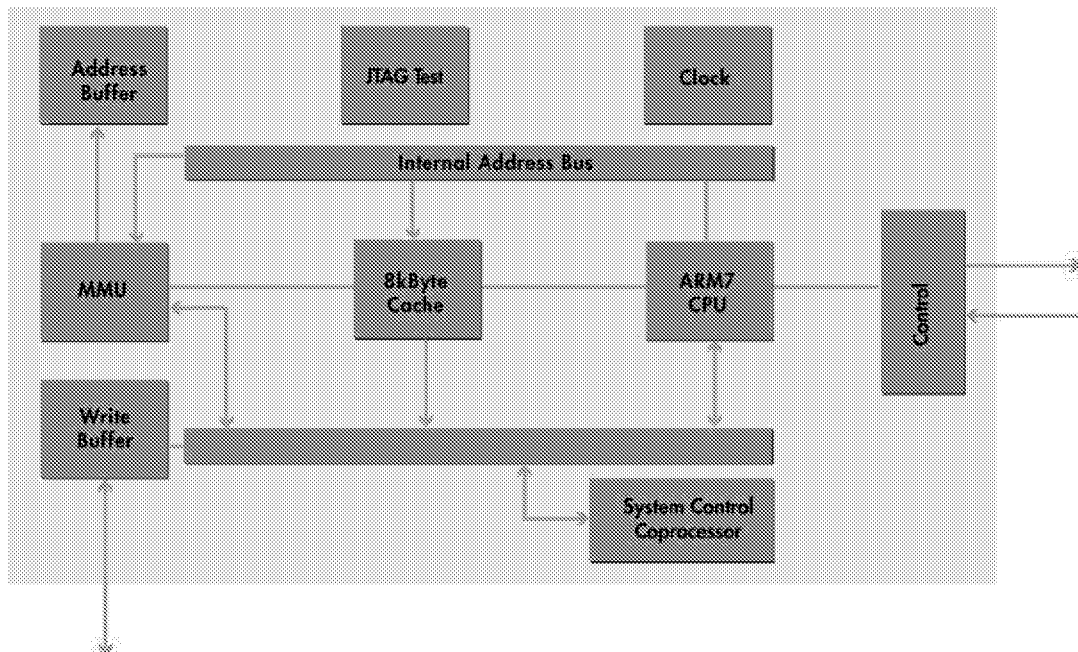
- 8 KByte combined cache
- Write Buffer, so the processor doesn't have to wait for slow memory
- Fast interrupt response time for real-time applications
- Independent processor and memory clocking to accommodate inexpensive memory
- JTAG Boundary Scan Test Interface.

APPLICATIONS

Both the ARM710 and ARM610 are ideal whenever high performance is required within tight cost and power constraints:

- Powerful real-time control
- Hand-held computing
- Portable telecom
- Data communications
- Consumer multi-media
- Automotive control

Block Diagram



SPECIFICATIONS

	ARM710	ARM610
Part number	VY86C710A2	VY86C610C-5
Technology	0.5 μ M	0.6 μ M
Die size (mm ² Kmils ²)	34/53	26/41
Transistors	570 295	358 931
Clock frequency	0 to 28 MHz	0 to 33 MHz
Package	144 pin TQFP	144 pin TQFP
Voltage	3.3 \pm 10%	5.0 \pm 10%
Power consumption	105mW	500mW
MIPS (Dhrystone 2.1)	24	30
MIPS per Watt	229	60
Cache	8K	4K
Write Buffers	8 word, 4 address	8 word, 2 address

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