UMPU-0700 ARM® 32-bit RISC Processor - ARM7TDMI™

Features

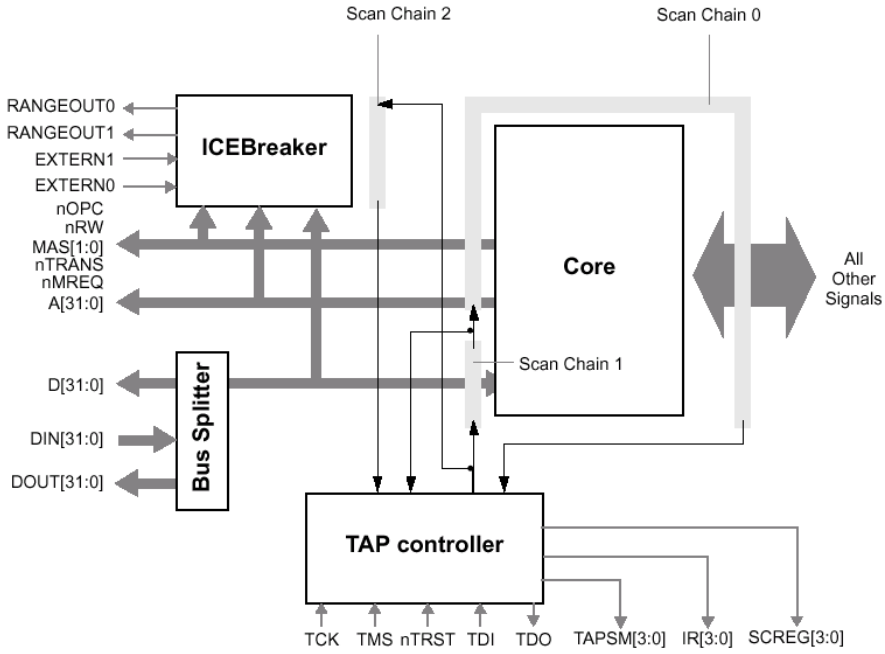
- **32-bit register bank**
- **32-bit ALU for RISC performance**
- **32-bit shifter**
- **32-bit addressing (no paging required above 64KB)**
- **32 x 8 DSP multiplier for signal processing**
- **Thumb instruction set (provides 16-bit code density)**
- **Excellent code-density for minimal system memory size and cost**
- **32-bit performance from 8- or 16-bit memory on an 8- or 16-bit bus for low system cost**
- **Extremely low power consumption for portable application**
- **Embedded in-circuit emulation function support for on-chip debugging**

Overview

The UMPU-0700 is a range of high performance, low power 32-bit RISC cores incorporating the ARM® Thumb® 16-bit instruction set extension. This enables 32-bit performances at 8/16-bit system cost.

The UMPU-0700 is optimized for high-performance but cost-sensitive applications. The range of products has been developed to meet different price/performance requirements within the target markets of the portable, embedded and multimedia applications.

Block Diagram



Source: ARM Ltd.

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Description

With cost-sensitive embedded control applications such as cellular phone, disk drive, modem and pager all hitting the performance ceilings of their current generation CISC controllers, designers are looking for ways to achieve 32-bit performance and address space without the costs associated with the move to 32-bit system.

The ARM7TDMI™ 32-bit RISC processor core with its Thumb instruction set extension meets these requirements. The ARM RISC architecture offers low power consumption, small size and high performance in portable, embedded and multimedia applications. Thumb has extended the architecture by addressing the code size problem associated with RISC processors. System designers can benefit from the high performance and wide address range offered by the 32-bit RISC core. This enables the development of applications with increased functionality and performance while maintaining competitive system cost and power consumption.

The ARM7TDMI™ includes EmbeddedICE™ and on-chip debug logic for the development of application code when a core is deeply embedded into ASIC or ASSP. Access is via a 5-wire JTAG port and an ICE interface unit such as ARM Multi-ICE™.

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