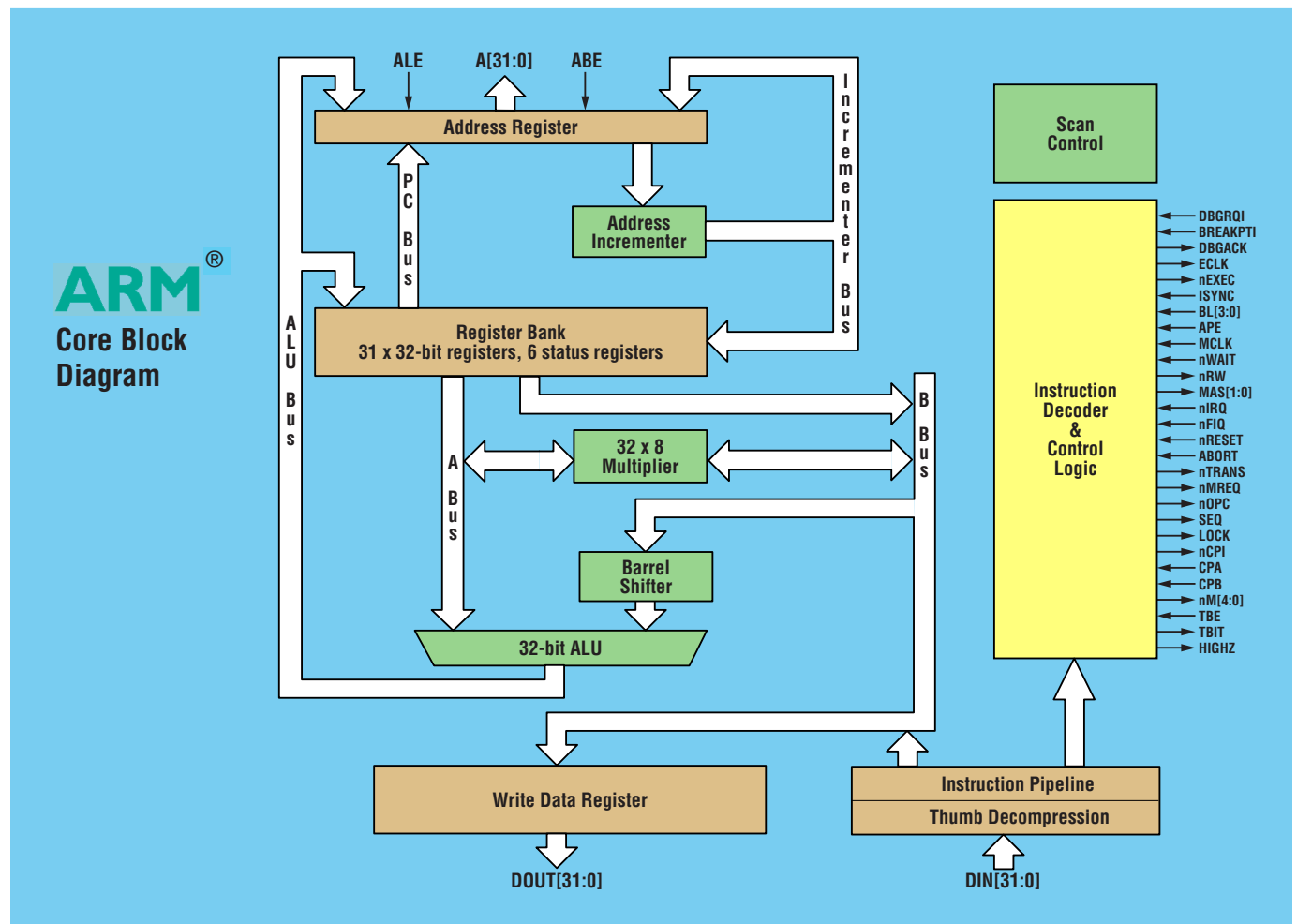


ARM7TDMI™ Processor Core



ARM[®]
Core Block
Diagram

► Features

- 32-bit addressing
- Thumb[®] 16-bit instruction set extension
- Supports operation of 100 MHz (typical) at 2.5V
- Static design and low-power dissipation of 0.6 mW/MHz
- Small die size
- Embedded ICE and on-chip debug logic
- Well-supported hardware and software environment

► Benefits

- 4 GB linear address space removes need for segmented, banked, or overlaid memory
- 32-bit performance at 8-, 16-bit system cost
- High performance for demanding applications
- Ideal for low-power applications, such as cellular phones and hand-held devices
- Embedded system ready for fast time to market

ARM7TDMI Processor Core

► Description

The ARM7TDMI embedded CPU core is part of Fujitsu's IPWare™ Library. The Fujitsu ARM7TDMI processor core, developed by ARM, is implemented in Fujitsu's 0.25µm process technology. This core contains all of the ARM7TDMI processor features, including a 32-bit RISC engine, Thumb instruction set (smaller code size), debug functions, multiplier, and embedded ICE support logic. The ARM7TDMI processor is supported by multiple hardware and software vendors through a wide array of development tools and RTOS created by ARM.

The ARM7TDMI processor supports speeds up to 100 MHz (typical case) at 2.5V and 66 MHz (worst case) at 2.3V, 125C, process slow. The core will consume 0.6 mW per MHz

(average) at 2.5V, which makes it ideal for the low power applications market. The core area is just 1.1 mm², making it very cost competitive for ASIC integration.

Fujitsu's ARM core is supported by MicroPak™ peripherals provided by ARM, including Advance Peripheral Bus (timer, interrupt controller, remap, and pause controller), and Advanced System Bus (external memory interface, test interface controller, decoder, arbiter, and reset controller). Fujitsu is developing additional peripherals such as cache controller and an embedded DRAM controller to assist our customers with complex system-on-a-chip designs.

► Deliverables

The Fujitsu value-added ARM7TDMI Processor Core enables our customers to design a variety of complex system-on-a-chip ASIC designs resulting in fast time-to-market.

A Fujitsu application engineer works with the customer to identify the customers' specific IP requirements. Fujitsu will provide the customer with the following information to support the ARM7TDMI core:

- Verilog Model
 - Front-end simulation
 - C model with Verilog wrapper
- Design Compiler Model
 - Timing analysis
- Library Exchange Format (LEF)
 - Floorplanning
 - Place and Route

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