ATMEL MICROPROCESSORS PRODUCTS FAMILY

Session 1: European General Purpose Microprocessors

Presentation

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ABSTRACT

The paper presents the status of the microprocessors products available at ATMEL for space applications. This include

The 8-bit microcontroller 80C32.

The TSC695F (ERC32 single-Chip) is a highly integrated, high-performance 32-bit RISC processor implementing the SPARC architecture V7 specification, The processor is manufactured using the ATMEL 0.5µm radiation tolerant CMOS enhanced process RTP. The TSC695F operate in a range of 4.5V to 5.5V, and it have tested up to Total Dose of 300 Krads (Si) according to MIL STD 883.

The TSC695FL is a selection of the TSC695F performed for a narrow 3.3V biasing voltage range, it allows a dramatic power consumption reduction about 70%.

The TSC21020F is the ATMEL's 32-bit floating point DSP which is pin and code compatible with the ADI Product ADSP-21020.

The AT697E is a highly integrated, high-performance 32-bit RISC embedded processor based on the SPARC V8 architecture. The implementation is based on the European Space Agency (ESA) LEON2 fault tolerant model. The processor is manufactured using the ATMEL 0.18µm technology (AT58K). The performance of the processor reaches 86Mips @ 100MHz, and the power consumption has been measured at 7 mW/MHz.

The AT697F is the flight version of the AT697E. The processor is manufactured using the ATMEL 0.18µm radiation tolerant CMOS.

The presentation will cover the technical side of these products, as the main features, the performances, the TID and SEE results. It will also cover the remaining lifetime, obsolescence dates, and for the AT697 the differences between the products and the availability date.