An Application Specific Embeddable Flash Memory System For Non-Volatile Storage of Code, Data and Bit-Streams for Embedded FPGA Configurations

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Abstract

A 8Mb application-specific embeddable flash memory is presented. It features 3 content-specific I/O ports, delivers a peak read throughput of 1.2GB/s, and, combined with a special automatic programming gate voltage ramp generator circuit, a programming rate of 1Mbyte/s for non-volatile storage of code, data and embedded FPGA bit stream configurations.

The test chip has been designed using a NOR type 0.18μm flash embedded technology with 1.8V power supply, 2 poly, 6 metal and memory cell size of 0.35μm².