

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

Marco Pasotti, Guido De Sandre, David Iezzi, Davide Lena,
Gilberto Muzzi, Marco Poles, Pier Luigi Rolandi

STMicroelectronics - Non Volatile Memory Design Platform – Central R&D
Via C. Olivetti 2, 20041 Agrate Brianza (MI), ITALY
Tel.: +39 039 603 6101; Fax.: +39 039 603 6251; E-mail: marco.pasotti@st.com

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 0.18 μ m flash embedded technology with 1.8V power supply, 2 poly, 6 metal and memory cell size of 0.35 μ m².