5.0 Volt Family of Flash Memory Devices

DESCRIPTION

AMD, the inventor and market leader of 5.0 Volt-only single power supply Flash devices, offers designers the broadest portfolio of memory products ranging from 1Mb to 32Mb densities. These products feature the highest performance and reliability in the industry. With over 10 years of Flash memory design and manufacturing expertise, AMD offers the highest performance Flash devices with speeds as fast as 45ns. Only AMD guarantees at least 1 million program/erase cycles per sector and 20-year data retention at 125°C, providing reliable, long-term operation within the system. As a result, AMD is the best partner to support customers' 5.0 Volt Flash memory requirements.

Through the years, AMD's 5.0 Volt Flash has evolved into a broad and versatile product family. A rich set of product features makes designing with AMD Flash devices easy, for a variety of applications. The Flash devices' command set conforms to JEDEC industry standards, and features sector architecture with protection from inadvertent modification. Package options include TSOP, PLCC, PDIP, FBGA, and SO packages. AMD Flash is also available in the form of Known Good Die (KGD) for applications requiring the smallest form-factor and widest temperature range (from –55°C to 125°C). AMD offers customers the convenience of factory pre-programming through its ExpressFlash™ program. AMD is committed to the success of its customers by providing a rich set of product features with the highest proven performance in 5.0 Volt Flash Memory.

AMD's reliable and versatile products empower you to create advanced, feature-rich designs. Succeed with Flash technology leadership from AMD.

KEY FEATURES INCLUDE:

- Single-power-supply operation
- 4.5 to 5.5 Volt operating range
- Commercial, industrial, and extended temperature ranges
- Choice of byte-wide or word-wide architectures
- High-performance Read/Write
- High endurance, reliability, and data retention

APPLICATIONS

AMD's 5.0 Volt-only, feature-rich Flash devices are ideal solutions for a variety of applications:

- Networking Routers – Cost-effective price-per-megabit, reliability, endurance, and data retention.
- Automotive Engine and Transmission Controller – Reliable packages (KGD), high performance, unmatched reliability (1 million cycles, 20 years minimum data retention at 125°C), extended temperature, and QS-9000 certification.
- Automotive GPS Navigation Systems – Small form-factor, high performance, FBGA, wide temperature ranges, reliability, and QS-9000 certification.
- PC Bios – Byte-wide data path, easily socketed PLCC and PDIP packages, TSOP for surface mount, BIOS-optimized sector sizes, "bulletproof" sector protection for securing boot-loader, boot sectors available at either top (x86) or bottom (most other processors) of memory map.
- Printers – Boot sector architecture and small form-factor, fast Page-read mode in ROM-compatible foot-print for high performance and cost-reduction path, roadmap to higher densities and higher performance.
- Set-Top Boxes – Pin-compatible density upgrades from 1Mb to 32Mb and boot sector architecture.
- Industrial Controllers – Small form-factor, industrial temperature, and speeds as fast as 45ns.

AMD's Flash products are designed to meet the needs of the market with innovative and value-added design features, leading-edge process technologies, and state-of-the-art, high-volume manufacturing capabilities.

AMD

5.0 VOLT
FLASH MEMORY

Family

FEATURES AND BENEFITS

- Read access time as fast as 45 ns
- Improves system performance
- Choice of temperature ranges
- Meets commercial, industrial, and extended temperature range requirements
- Choice of byte-wide or word-wide architecture
- Accommodates different data bus sizes and simplifies the design
- Minimum 1,000,000 program/erase cycles and 20 year data retention
- Reliable operation for the life of the system
- Broad selection of package options
- Optimizes system form-factor and reduces cost
- Sector protect, temporary sector unprotect
- Provides a fool-proof method to protect critical code
- Backward compatibility in terms of device pin-out, package footprint and software command set
- Allows for easy upgrades to higher densities
- Availability of Known Good Die (KGD)
- Offers the smallest form-factor
- ExpressFlash™ Option
- Fast, reliable, high-volume factory programming

ORDERING INFORMATION

Product	Density	Speed Ratings (ns)	Package Options
Uniform Sectored byte-wide (x8)			
Am29F010B	1Mb	45,55,79,90,120	32-pin TSOP, 32-pin PDIP, 32-pin PLCC
Am29F040B	4Mb	55,70,90,120,150	32-pin TSOP, 32-pin PDIP, 32-pin PLCC
Am29F080B	8Mb	75,90,120,150	40-pin TSOP, 44-pin SO
Am29F016D	16Mb	70,90,120,150	40/48-pin TSOP, 44-pin SO
Am29F017D	16Mb	70,90,120,150	40/48-pin TSOP
Am29F032B	32Mb	75,90,120,150	40-pin TSOP, 44-pin SO
Boot Sectored byte-wide (x8)			
Am29F002B	2Mb	55,70,90,120	32-pin TSOP, 32-pin PDIP, 32-pin PLCC
Am29F002NB	2Mb	55,70,90,120	32-pin TSOP, 32-pin PDIP, 32-pin PLCC
Am29F004B	4Mb	55,70,90,120	32-pin PLCC
Boot Sectored byte-wide or word-wide (x8/x16)			
Am29F200B	2Mb	45,50,55,70,90,120	48-pin TSOP, 44-pin SO
Am29F400B	4Mb	45,50,55,70,90,120,150	48-pin TSOP, 44-pin SO
Am29F800B	8Mb	55,70,90,120,150	48-pin TSOP, 44-pin SO
Am29F160D	16Mb	75,90,120	48-pin TSOP

AMD

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