

3.0 Volt Family of Flash Memory Devices

DESCRIPTION

AMD, the market leader and innovator of 3.0 Volt-only single power supply Flash devices, offers designers an extensive family of high-performance, low-voltage Flash memory products. AMD's 3.0 low-voltage solution is ideal for battery-powered applications.

The 3.0 Volt-only devices offer the lowest energy consumption solution for a broad base of portable and power-sensitive applications. The extended low-voltage operating range allows battery-powered systems to run longer between charge cycles. The 3.0 Volt-only Am29LVxxx product family provides an average of 60% power savings over comparable 5.0 Volt Flash products for read and write operations.

A primary objective for designers of cellular phones, handheld GPS terminals, pagers, PDAs or virtually any portable, battery-powered appliance is to continuously preserve battery life. Devices like cellular phones and pagers spend the majority of time in standby mode; meaning the device is powered on but in an inactive state. Low energy consumption translates to longer standby times. AMD's 3.0 Volt-only product family has a very low standby current of 0.2 uA. As a result, AMD's Flash memory devices consume the least amount of energy in the industry.

The Am29LVxxx 3.0 Volt-only family is based on the same architecture as AMD's industry-standard Am29Fxxx, 5.0 Volt-only family of Flash memory products. The 3.0 Volt-only memory devices comprise AMD's broadest Flash product family, and offer advanced features such as Simultaneous Read/Write and Burst or Page operation. AMD offers NOR in densities ranging from 1Mb to 64Mb, and UltraNAND™, a highly reliable NAND-based Flash technology. In addition, each 3.0 Volt-only device conforms to the JEDEC command set and package pinout standards established for single-power-supply 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
- 2.7 to 3.6 Volt operating range
- Advanced power management provides
 - Lowest operating power
 - Zero power operation
- Choice of architectures
- High-performance Read/Write, Burst, Page modes
- High reliability

APPLICATIONS

AMD's low-voltage, feature-rich Flash memory devices offer an ideal solution for a variety of applications, including:

- Digital Cellular Phones – Extremely low energy consumption; sector architecture; industrial-temperature-grade product; pin-compatible density upgrades; very high performance; Simultaneous Read/Write operation; and small form-factor packaging.
- Personal Information Devices – Flexibility of in-system re-programmability; full operation at 2.7 Volts; low energy consumption; 16 Bit I/O bus; and high-speed data access.
- Handheld Global Positioning Systems (GPS) and Instrumentation – Industrial-temperature-grade products; full operation at 2.7 Volts; sector architecture; and high performance.
- Set-Top Boxes – Pin-compatible density upgrades to 64Mb; Burst and Page mode Flash for highest performance; Simultaneous Read/Write for "on the fly" remote code updates; and Secured Silicon (SecSi™) to ensure highest security.
- Automotive Underhood and In-Dash Systems – High performance; FBGA; Burst mode; KGD (Known Good Die); wide temperature ranges; reliability; and QS-9000 certification.

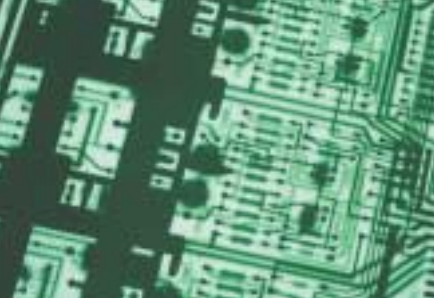
AMD's Flash products are designed to meet the needs of the market with innovative and value-added design features, leading-edge process technologies, and state-of-the-art, high-volume manufacturing capabilities.



3.0 VOLT
FLASH MEMORY

Family





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FEATURES AND BENEFITS

- 3.0 Volt-only for Read, Program and Erase
- Extended Operating Range
- Read Mode Power Consumption as low as 27mW (typical); Zero Power Operation consumes 200nA (typical)
- Choice of Architectures
- Initial Read Access Times as Fast as 45ns
- Minimum 1,000,000 Program/Erase Cycles 20 Year Data Retention
- Broad Selection of Package Options
- Factory Programming Mode
- Sector Protect, Temporary Sector Unprotect
- Lowers overall system cost and power consumption by eliminating 5.0 Volt and 12.0 Volt power supplies
- Facilitates battery selection by providing operation over an unregulated 2.7 – 3.6 Volt range. Meets commercial, industrial, and extended temperature range requirements
- Extends system usage time between battery charges
- Simplifies design by offering byte-wide and word-wide data bus, boot and uniform sectored, and standard and Simultaneous Read/Write, Burst or Page mode operation
- Improves system performance
- Reliable operation for the life of the system
- Optimizes equipment form factor, reduces cost
- Decreases programming time up to 50%
- Provides a fool-proof method to protect critical mode

ORDERING INFORMATION

Product	Density	Speed Ratings (ns)	Package Options
PRODUCT			
Uniform Sectored			
Am29LV010B	1Mb	45, 55, 70, 90	32-pin PLCC, 32-pin TSOP
Am29LV040B	4Mb	65, 70, 90, 120	32-pin PLCC, 32-pin TSOP
Am29LV081B	8Mb	70, 90, 120	40-pin TSOP
Am29LV017D	16Mb	70, 90, 120	40-pin TSOP, 48-ball FBGA
Am29LV033C	32Mb	70, 90, 120	40-pin TSOP, 63-ball FBGA
Am29LV065D	64Mb	90, 100, 120	48-pin TSOP, 63-ball FBGA
Am29LV640D/641D	64Mb	90, 100, 120	48-pin TSOP, 63-ball FBGA
Boot Sectored (x8/x16)			
Am29LV200B	2Mb	55, 70, 90, 120	48-pin TSOP, 44-pin SO
Am29LV400B	4Mb	55, 70, 90, 120	48-pin TSOP, 44-pin SO, 48-ball FBGA
Am29LV800B	8Mb	70, 80, 90, 120	48-pin TSOP, 44-pin SO, 48-ball FBGA
Am29LV160D	16Mb	70, 90, 120	48-pin TSOP, 44-pin SO, 48-ball FBGA
Am29LV320D	32Mb	70, 90, 120	48-pin TSOP, 48-ball FBGA, 56-pin SSOP
Boot Sectored byte-wide (x8)			
Am29LV001B	1Mb	45, 55, 70, 90	32-pin TSOP, 32-pin PLCC
Am29LV002B	2Mb	55, 70, 90, 120	40-pin TSOP
Am29LV004B	4Mb	70, 90, 120	40-pin TSOP
Am29LV008B	8Mb	70, 80, 90, 120	40-pin TSOP
Am29LV116D	16Mb	70, 90, 120	40-pin TSOP
Simultaneous Operation			
Am29DL400B	4Mb	70, 80, 90, 120	48-pin TSOP, 44-pin SO
Am29DL800B	8Mb	70, 90, 120	48-pin TSOP, 44-pin SO, 48-ball FBGA
Am29DL162D/163D/164D	16Mb	70, 90, 120	48-pin TSOP, 48-ball FBGA
Am29DL322D/323D/324D	32Mb	70, 90, 120	48-ball TSOP, 63-ball FBGA
Burst/page Modes			
Am29BL802C	8Mb	65, 70, 90, 120	56-pin SSOP
Am29BL162C	16 Mb	65, 70, 90, 120	56-pin SSOP
Am29PL160C	16Mb	65, 70, 90, 120	48-pin TSOP, 44-pin SO
UltraNand			
Am30LV0064D	64Mb	J40	40/44-pin TSOP II, 40-ball FBGA