

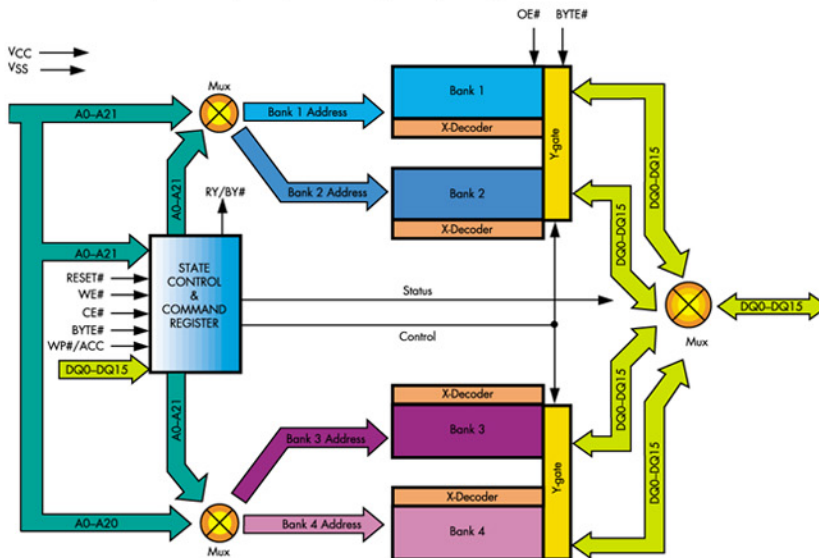
Flexible Bank Family of Flash Memory



OVERVIEW

As applications depend more and more on the non-volatility, in-system reprogrammability, and high density of Flash memory, AMD continues to lead the industry in Flash Memory innovations. AMD's latest product family is based on the Flexible Bank architecture—a breakthrough design that offers unmatched versatility and energy efficiency for a wide range of cellular, portable, automotive, and networking applications.

AMD's Flexible Bank family of Flash Memory devices provides designers with a fast and efficient way to program or erase a memory bank while reading from one of many other banks—all in real time. As a result, designers can dynamically change code and data memory partitions in Flash Memory while reducing the number of components used and avoiding the complexity of utilizing multiple chips.



MAXIMUM DESIGN FLEXIBILITY

Building on AMD's patented and award-winning Simultaneous Read/Write (SRW) technology, the Flexible Bank architecture offers designers maximum flexibility and simplicity for developing tailored, high-density solutions using a single Flash Memory device. The diagram above illustrates the advantage of the Flexible Bank architecture for a personal digital assistant (PDA) manufacturer. With the Flexible Bank architecture, the user can read and execute the OS from Bank 1, while downloading an application into Bank 2. The user could then execute the application from Bank 3 while writing data into an address book, or saving cookies for a web session in Bank 2. The system can also download an updated version of the OS into yet another bank (Bank 4) and execute the OS from that bank. Because code and data partitions can be changed on-the-fly, this updated version can be read from Bank 4 or can be read from the original OS Bank 1.

This high level of versatility enables manufacturers to design a single Flash Memory device that allows them to deliver value-added features tailored for specific memory allocation needs. In addition, Flexible Bank devices help reduce inventories by allowing manufacturers to offer multiple product models with one type of Flash Memory device that can be partitioned in a variety of ways.

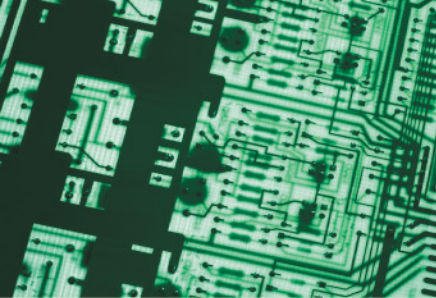
TESTED AND READY FOR THE REAL WORLD

Testing Flash Memory devices for reliability under the various possible read/write combinations is challenging but absolutely necessary. That's why AMD uses the most rigorous and comprehensive testing processes in the industry to ensure customers can deploy Flexible Bank devices with complete confidence, no matter how they partition or use the memory device. Flexible Bank devices are also designed to endure temperatures that range from -55°C to +125°C, making these devices ideal for the most demanding operating environments. AMD delivers the highest endurance and data retention in the industry with a guarantee of one million write/erase cycles per sector and 20-year data retention at 125°C.



FLEXIBLE BANK
FLASH MEMORY

Am29DL640



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KEY FEATURES INCLUDE:

- Multi-bank and flexible bus-width architecture
- True Simultaneous Read/Write (SRW) capability between any two banks
- Access speeds as fast as 90 ns
- SecSi™ (Secured Silicon) Sector security
- Zero Power Operation
- Single power supply operation
- Support by AMD's Data Management Software (DMS)
- Highest proven reliability, endurance, and data retention in the industry
- Multiple packaging options (FBGA, TSOP)

APPLICATIONS

The first member of the Flexible Bank family is the Am29DL640, a 64-Mb Flash Memory device that provides the ideal solution for a variety of applications including:

- Cellular phones
- Personal information devices and pagers
- Handheld Global Positioning Systems (GPS)
- Next-generation automotive car PCs
- Set-top boxes
- Network routers

FEATURES AND BENEFITS

- Multi-bank and flexible bus-width architecture
- Offers designers maximum flexibility and simplicity for developing tailored, cost-effective solutions using a single Flash Memory device
- Access speeds as fast as 70 ns
- High system performance
- Multiple packaging options
- Enables designers to choose optimal package design based on product and market requirements
- Zero Power Operation
- Allows the device to put itself into "sleep" mode when inactive thus limiting the current consumption to 0.2uA
- Temperature ranges from -55°C to +125°C
- High endurance to operate in a wide range of environments
- SecSi™ (Secured Silicon) Sector
- Protects against unauthorized system cloning
- Guarantee of at least 1 million program/erase cycles per sector and 20-year data retention at 125°C
- Reliable operation for endurance and data retention throughout life of device
- Support by AMD's Data Management Software (DMS)
- Facilitates the easy storage of code and data in a single Flash device, and enables EEPROM emulation

ORDERING INFORMATION

Valid Combinations for FBGA Packages

Order Number		Package Marking
Am29DL640D90	WHI	D640D909V
Am29DL640D120	WHI, WHE	D640D12V

Valid Combinations for TSOP Packages

Order Number	
Am29DL640D90	EI
Am29DL640D120	EI, EE

Valid Combinations list configurations planned to be supported in volume for this device. Consult the local AMD sales office to confirm availability of specific valid combinations and to check on newly released combinations.