Serial Flash, Serial EEPROM and Application Specific Standard Products

for Computer Applications

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STMicroelectronics

More Intelligent Solutions

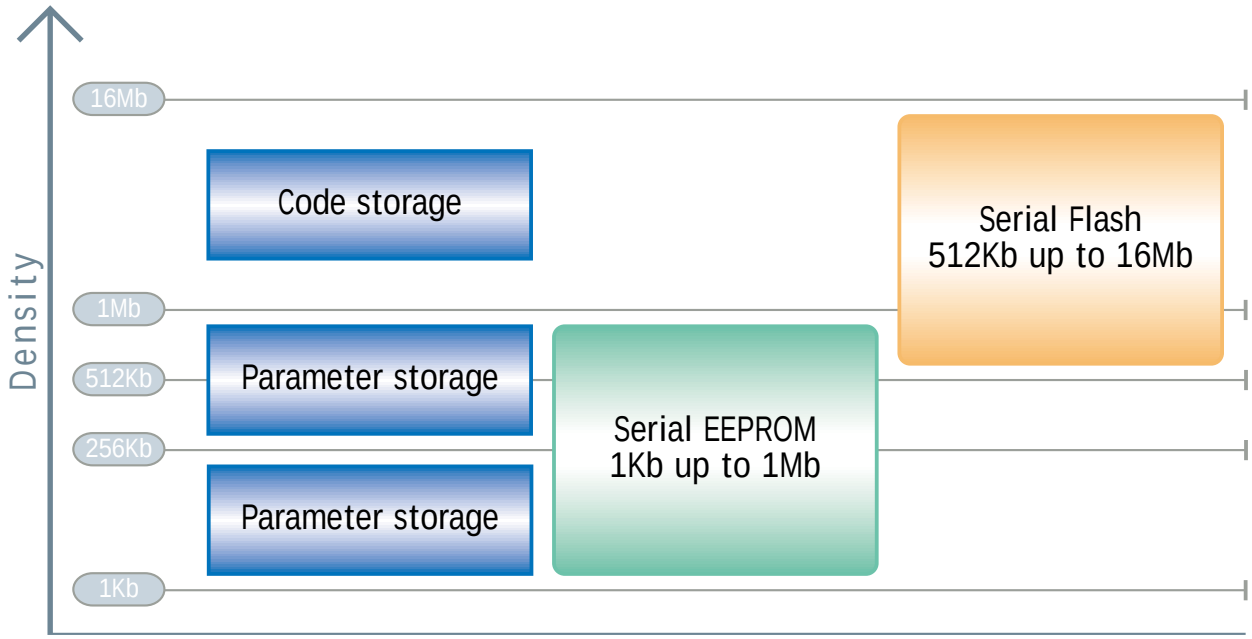
Serial Flash, Serial EEPROM and ASSP for Computer Applications

The computer and peripherals market is demanding higher and higher performances at lower costs. Performances and sophisticated applications are greedy in memory size and processing speed. Keeping a low cost while increasing the performances is a daily challenge to semiconductor suppliers. One way to reduce costs is to move to serial memories that offer lower pin count and smaller packages.
In the memory arena, ST brings its know-how and long experience to provide a range of memories optimized for your application.

A complete portfolio of compatible Serial EEPROMs and Flash memories for flexible parameter and code storage

STMicroelectronics offers a complete portfolio of Serial Flash memories from 512 Kbit to 16 Mbit and Serial EEPROMs with capacities from 1 Kbit up to 1 Mbit. These products meet the requirements of both parameter and code storage.

- Serial EEPROMs (from 1 Kbit to 1 Mbit) are well suited for parameter storage
- High density Serial EEPROMs can be used for both small code storage and parameter storage
- Sector erasable M25Pxx Serial Flash memories are dedicated to code storage



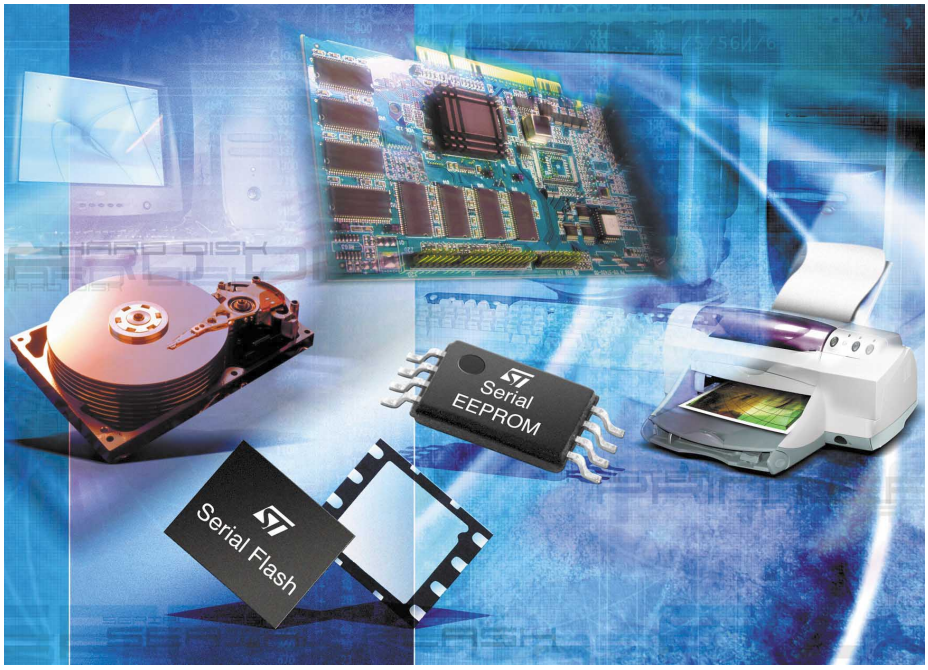
EEPROM for Computer applications

Available in 1.8V, 2.5V and 5V supply voltages, STMicroelectronics offers the widest range of Standard EEPROM:

- the 400kHz, I²C low cost, 2-wire bus with densities up to 1 Mbit
- fast 3MHz MICROWIRE® bus types at densities from 1 to 16 Kbit
- very fast 5MHz SPI bus types with densities up to 256 Kbit

ST EEPROM portfolio continues its expansion, adding higher performance, higher densities and lower voltage devices, through continuous innovations in technology, providing to the market best value products.

Serial Flash, Serial EEPROM and ASSP for Computer Applications



Serial Flash for Code Storage

The M25Pxx solution creates added value for all applications requiring fast download of code, like personal computer add-on cards, including graphic cards, SCSI and network cards, hard disk drives, digital cameras and optical storage.

Serial Flash family benefits for your application:

- Fast download from Serial Flash to RAM (1Mb code in 42ms)
- Designed for code storage and high level code protection
- Suitable for all applications using RAM for code execution
- Same S08 footprint from 512 Kbit to 16 Mbit
- Lower power consumption thanks to deep power down mode
- Reduced chipset pin-count

Serial Flash and Serial EEPROM for Computer and Peripherals Applications

Application	EEPROM I²C M24xxx	EEPROM SPI M95xxx	EEPROM MICROWIRE® M93xxx	Serial Flash M25Pxx
Printer	2-8Kb	2-8Kb	2-4Kb	512Kb-16Mb
DRAM Modules	2Kb			
Motherboard	1-16Kb		1-16Kb	
HDD	4-512Kb	4-256Kb		512Kb-8Mb
Graphic Card				512Kb-2Mb
Optical Drive	4-16Kb		4-16Kb	512Kb-4Mb
Power Management	64-256Kb	64-256Kb		
Monitors	1-256Kb			512Kb-4Mb
Accessories (mouse, game pad, keyboard)	1-64Kb			

Serial Flash, Serial EEPROM and ASSP for Computer Applications

Optimized solution offer

ASSPs are built on a common non-volatile memory technology platform, allowing a non-volatile memory core to be combined with dedicated logic on the same chip. ST Application Specific Standard Products provide the optimum solution for several key applications in the computer segment.

Serial Flash and Serial EEPROM for Computer and Peripherals applications

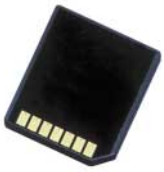
Market and application	Identification memory for Plug and Play monitor	Identification memory for Plug and Play DRAM module	ee-Tag device for electronics board	2Kb device for ACR Card	Upper quarter Hardware write control
Part number	ST24Lx21* ST24Fx21**	M34C02	M34C00	M34A02	M34D64
Density	1Kb	2Kb	3 x 128bits	2Kb	64Kb
Operating voltage	2.5-5.5V	2.5 - 5.5V 2.2 - 5.5V 1.8 – 5.5 V (DDR II Compliant)	2.5 - 5.5V	2.7 – 3.6V	2.5 - 5.5V
Special features versus standard	Plug and Play for monitors	Upper 1K is read and write, lower 1K is read only	3 banks of 128b 1) OTP 2) EEPROM 3) lockable EEPROM	SMBus compatibility	Hardware write control on top quarter
Packages	PDIP8 SO8	SO8 TSSOP8	SO8 TSSOP8	SO8 TSSOP8	SO8 PDIP8

** VESA1 compliant ** VESA2 compliant*

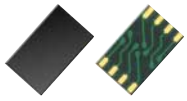
M34C00 for traceability and after sales of any board

The M34C00 is an ee-tag, that allows the storing of serial numbers factory settings, user settings and any kind of change during board life. This product provides high flexibility by allowing read and write on board.

Smaller footprint, thinner product, Think Serial!



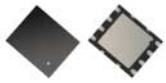
MMC Form Factor
32 x 24 mm



LGA8
8 x 5 mm

SO8W
7.70 x 5.15 mm

SO8N
6 x 5 mm

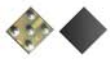


MLP
6 x 5 mm

TSSOP14
6.4 x 5 mm

TSSOP8
6.4 x 3 mm

TSSOP8 3x3
4.9 x 3 mm



SBGA
die size

Packages illustrations are not to scale

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Full product information at www.st.com

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