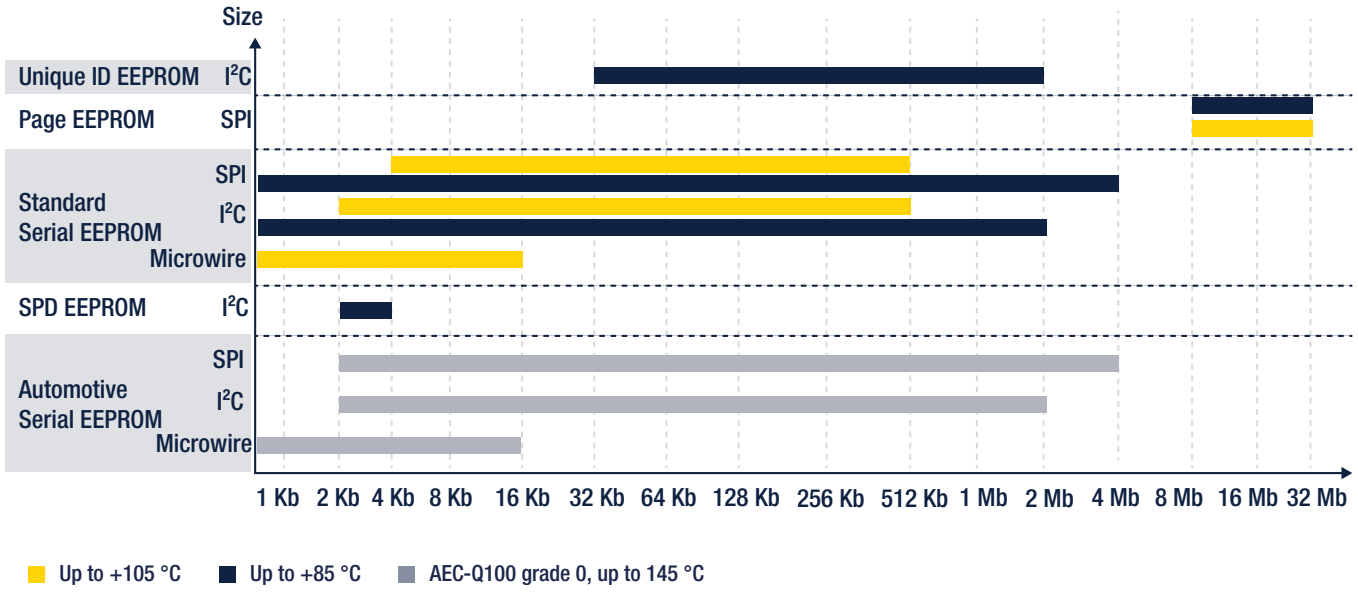
Serial EEPROM selection guide

About the ST EEPROM portfolio

Serial EEPROM is the most flexible type of non-volatile memory that can be electrically erased and reprogrammed. This product, designed for flexible and reliable management of parameter storage, is widely used in various industries, including automotive, consumer electronics, industrial automation, and medical devices.

ST is the world's leading EEPROM supplier (since 2005), driven by continuous innovation and outstanding product performance. Our comprehensive portfolio spans densities from **1 Kbit to 32 Mbit**, delivering versatile solutions for every application. ST guarantees outstanding reliability, with up to 4 million erase/write cycles, as well as 200 years of data retention.



Why choose ST EEPROM

- Leadership: #1 supplier worldwide
- Availability: Large portfolio with a wide range of density options.
- Innovation: Advanced technology and continuous new product introductions
- Differentiation: In-house technology ensuring high performance, best-in-class service, and quality
- Long-term commitment: All EEPROMs are covered by ST's 10 to 15-year longevity program

ST EEPROM

LONGEVITY 10 YEARS COMMITMENT

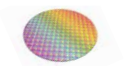
LONGEVITY 15 YEARS COMMITMENT

www.st.com/eeprom

ST EEPROM at a glance

- Serial buses available: I²C, SPI, microwire
- Packages: SO8N, TSSOP8, DFN8, DFN5, WLCSP, bare die in wafer form (available on demand)
- Temperature range:
  - Industrial: -40 °C to +85 °C
  - Industrial Plus: -40 °C to +105 °C
  - Automotive: -40 °C to +125 °C or +145 °C

PACKAGE OPTIONS

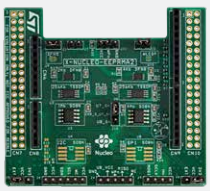
Name	Package	Overall width	Overall length	Overall height	Pitch	Weight (mg)	Number of pins/balls	Comments
SO8N		4.9	6	1.75	1.27	80	8	-
TSSOP8		3	6.4	1.2	0.65	34	8	-
DFN8		2	3	0.6	0.5	16	8	Leadless package also called UFDFPN8, MLP8
DFN5		1.7	1.4	0.6	0.4	7	5	Leadless package also called UFDFPN5, MLP5
WLCSP		Below 1 mm²		0.3	-	-	4; 5 or 8	Wafer level chip scale package. Available in WLCSP4, WLCSP5, WLCSP8 balls Dimensions, pitch, and weight are die dependent
Bare Die		-	-	-	-	-	-	Dimensions, pitch, and weight are die dependent

All dimensions are in mm

ST EEPROM COMPLETE ECOSYSTEM

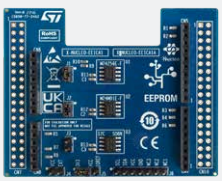
DEVELOPMENT TOOLS FOR STANDARD EEPROM

X-NUCLEO-EEPRMA2
STM32 Nucleo expansion board



I²C - SPI compatible

X-NUCLEO-EEICA1
STM32 Nucleo expansion board



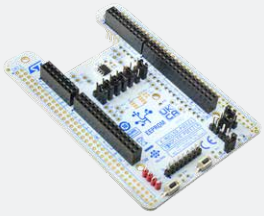
I²C New advanced technology [M24xxxE-F products]

X-CUBE-EEPRMA1
STM32Cube expansion package

STM32 CubeExpansion

DEVELOPMENT TOOLS FOR PAGE EEPROM

X-NUCLEO-PGEEZ1
STM32 Nucleo expansion board



Page EEPROM

Standard Serial EEPROM

INTRODUCTION

Standard Serial EEPROMs are competitive products designed for flexible and reliable management of parameters in smart things, smart homes/cities as well as smart industry with extended temperature ranges. Products feature up to 4 million write/erase cycles, over 100 million cycles per device and 200 years of data retention.

The **Industrial 85 °C** line offers EEPROMs with low voltage, low pin count, and the smallest form factor to fit mobile, consumer, and computer applications. Packages such as DFN8, DFN5, WLCSP4/5/8 balls and bare die allow to fit in the tiniest modules. Low-power operation also makes them ideal for battery-operated wearable modules.

ST Standard Serial EEPROMS are covered by the **ST 10-year longevity program**.

Serial interface	Memory density	Voltage range	Specific features
I²C - M24xxx	1 Kbit to 2 Mbit	from 1.6 to 5.5 V	Industrial 85 °C
SPI - M95xxx	1 Kbit to 4 Mbit	from 1.7 to 5.5 V	Industrial 85 °C
Microwire - M93xxx	1 Kbit to 16 Kbit	from 1.8 to 5.5 V	Industrial 85 °C
I²C - M24xxx	2 Kbit to 512 Kbit	from 1.7 to 5.5 V	Industrial plus 105 °C
SPI - M95xxx	4 Kbit to 512 Kbit	from 1.7 to 5.5 V	Industrial plus 105 °C

FIND OUT MORE

https://www.st.com/en/memories/standard-serial-eeprom.html

SELECT YOUR STANDARD EEPROM

I²C - INDUSTRIAL +85 °C

All products are qualified from -40 to + 85°C. Supply voltage max is 5.5 V.

Part number	Storage capacity (Kbit)	Temperature range (°C)	Power supply range (V)	Clock frequency max (MHz)	Package options					Specific features
					SO8N	TSSOP8	DFN8	DFN5	WLCSP	
M24C01-R	1	-40 to +85	1.8 to 5.5	0.4	•	•				-
M24C02-F	2	-40 to +85	1.6 to 5.5	0.4	•	•	•	•		-
M24C04-F	4	-40 to +85	1.6 to 5.5	0.4	•	•	•	•		-
M24C08-F	8	-40 to +85	1.6 to 5.5	0.4	•	•	•	•	•	-
M24C08-G	8	-40 to +85	1.6 to 5.5	0.4					•	I/Os compatible with 1.2 V bus interface
M24C16-DFCU	16	-40 to +85	1.6 to 5.5	1					•	Lockable Identification Page
M24C16-F	16	-40 to +85	1.6 to 5.5	0.4	•	•	•	•		-
M24C32-DF	32	-40 to +85	1.7 to 5.5	1	•	•	•			Lockable Identification Page
M24C32-F	32	-40 to +85	1.6 to 5.5	1	•	•	•	•		-
M24C64-DF	64	-40 to +85	1.7 to 5.5	1	•	•	•		•	Lockable Identification Page
M24C64-F	64	-40 to +85	1.6 to 5.5	1	•	•	•	•	•	-
M24C64X-FCU	64	-40 to +85	1.6 to 5.5	1					•	Software write protection Configurable device address
M24128-BF	128	-40 to +85	1.6 to 5.5	1	•	•	•	•		-
M24128-DF	128	-40 to +85	1.7 to 5.5	1	•	•	•		•	Lockable Identification Page
M24128X-FCU	128	-40 to +85	1.6 to 5.5	1					•	Software write protection Configurable device address
M24256-BF	256	-40 to +85	1.7 to 5.5	1		•	•			-
M24256-DF	256	-40 to +85	1.7 to 5.5	1	•	•	•	•		-
M24256E-F	256	-40 to +85	1.6 to 5.5	1	•	•	•	•		Configurable device address Lockable Identification Page
M24256X-F	256	-40 to +85	1.6 to 5.5	1					•	Software write protection Configurable device address Lockable Identification Page
M24256X-G	256	-40 to +85	1.6 to 5.5	1	•	•				I/Os compatible with 1.2 V bus interface
M24512-DF	512	-40 to +85	1.7 to 5.5	1	•	•	•		•	Lockable Identification Page
M24512E-F	512	-40 to +85	1.6 to 5.5	1	•	•	•			Software write protection Configurable device address Lockable Identification Page
M24M01-DF	1024	-40 to +85	1.7 to 5.5	1	•	•			•	Lockable Identification Page
M24M01E-F	1024	-40 to +85	1.6 to 5.5	1	•	•	•		•	Software write protection Configurable device address Lockable Identification Page
M24M01X-F	1024	-40 to +85	1.6 to 5.5	1					•	Software write protection Configurable device address Lockable Identification Page
M24M02E-F	2048	-40 to +85	1.6 to 5.5	1	•	•	•		•	Software write protection Configurable device address Lockable Identification Page

I²C - INDUSTRIAL PLUS +105 °C

All products are qualified from -40 to +105°C. Supply voltage max is 5.5 V.

Part number	Storage capacity (Kbit)	Temperature range (°C)	Power supply range (V)	Clock frequency max (MHz)	Write time max (ms)*	Package options				Specific features
						SO8N	TSSOP8	DFN8	WLCSP	
M24C02-DRE	2	-40 to +105	1.7 to 5.5	1	4	•	•	•		Lockable Identification Page
M24C04-DRE	4	-40 to +105	1.7 to 5.5	1	4	•	•	•		Lockable Identification Page
M24C08-DRE	8	-40 to +105	1.7 to 5.5	1	4	•	•	•		Lockable Identification Page
M24C16-DRE	16	-40 to +105	1.7 to 5.5	1	4	•	•	•		Lockable Identification Page
M24C32-DRE	32	-40 to +105	1.7 to 5.5	1	4	•	•	•		Lockable Identification Page
M24C64-DRE	64	-40 to +105	1.7 to 5.5	1	4	•	•	•		Lockable Identification Page
M24C64X-DRE	64	-40 to +105	1.7 to 5.5	1	4				•	Software write protection Configurable device address
M24128-DRE	128	-40 to +105	1.7 to 5.5	1	4	•	•	•		Lockable Identification Page
M24256-DRE	256	-40 to +105	1.7 to 5.5	1	4	•	•	•		Lockable Identification Page
M24512-DRE	512	-40 to +105	1.7 to 5.5	1	4	•	•	•		Lockable Identification Page

Note: * Industrial plus products offer shorter write time at 4 ms compared to industrial products (5 ms)

SPI - INDUSTRIAL +85 °C

All products are qualified from -40 to +85°C. Supply voltage max is 5.5 V.

Part number	Storage capacity (Kbit)	Temperature range (°C)	Power supply range (V)	Clock frequency max (MHz)	Package options					Specific features
					SO8N	TSSOP8	DFN8	WLCSP	Bare die	
M95010-R	1	-40 to +85	1.8 to 5.5	20	•	•				-
M95020-R	2	-40 to +85	1.8 to 5.5	20	•	•	•			-
M95040-DF	4	-40 to +85	1.7 to 5.5	20	•	•	•			Lockable Identification Page
M95080-DF	8	-40 to +85	1.7 to 5.5	20	•	•	•			Lockable Identification Page
M95160-DF	16	-40 to +85	1.7 to 5.5	20	•	•	•		•	Lockable Identification Page
M95320-DF	32	-40 to +85	1.7 to 5.5	20	•	•	•			Lockable Identification Page
M95640-DF	64	-40 to +85	1.7 to 5.5	20	•	•	•	•		Lockable Identification Page
M95128-DF	128	-40 to +85	1.7 to 5.5	20	•	•	•	•		Lockable Identification Page
M95256-DF	256	-40 to +85	1.7 to 5.5	20	•	•	•	•	•	Lockable Identification Page
M95512-DF	512	-40 to +85	1.7 to 5.5	16	•	•	•	•	•	Lockable Identification Page
M95M01-DF	1024	-40 to +85	1.7 to 5.5	16	•	•		•		Lockable Identification Page
M95M01E-F	1024	-40 to +85	1.7 to 5.5	16	•	•	•	•		Lockable Identification Page
M95M02-DR	2048	-40 to +85	1.8 to 5.5	5	•			•		Lockable Identification Page
M95M02E-F	2048	-40 to +85	1.7 to 5.5	16	•	•	•	•		Lockable Identification Page
M95M04-DR	4096	-40 to +85	1.8 to 5.5	10	•	•		•		Lockable Identification Page

Expand your design possibilities with the Page EEPROM series, a new Non-Volatile Memory (NVM) technology from ST.

Learn more

SPI - INDUSTRIAL PLUS +105 °C

All products are qualified from -40 to + 105°C. Supply voltage max is 5.5 V.

Part number	Storage capacity (Kbit)	Temperature range (°C)	Power supply range (V)	Clock frequency max (MHz)	Write time max (ms)*	Package options				Specific features
						SO8N	TSSOP8	DFN8	WLCSP	
M95040-DRE	4	-40 to +105	1.7 to 5.5	20	4	•	•			Lockable Identification Page
M95080-DRE	8	-40 to +105	1.7 to 5.5	20	4	•	•			Lockable Identification Page
M95160-DRE	16	-40 to +105	1.7 to 5.5	20	4	•	•			Lockable Identification Page
M95320-DRE	32	-40 to +105	1.7 to 5.5	20	4	•	•			Lockable Identification Page
M95640-DRE	64	-40 to +105	1.7 to 5.5	20	4	•	•	•		Lockable Identification Page
M95128-DRE	128	-40 to +105	1.7 to 5.5	20	4	•	•			Lockable Identification Page
M95256-DRE	256	-40 to +105	1.7 to 5.5	20	4	•	•			Lockable Identification Page
M95512-DRE	512	-40 to +105	1.7 to 5.5	16	4	•	•			Lockable Identification Page

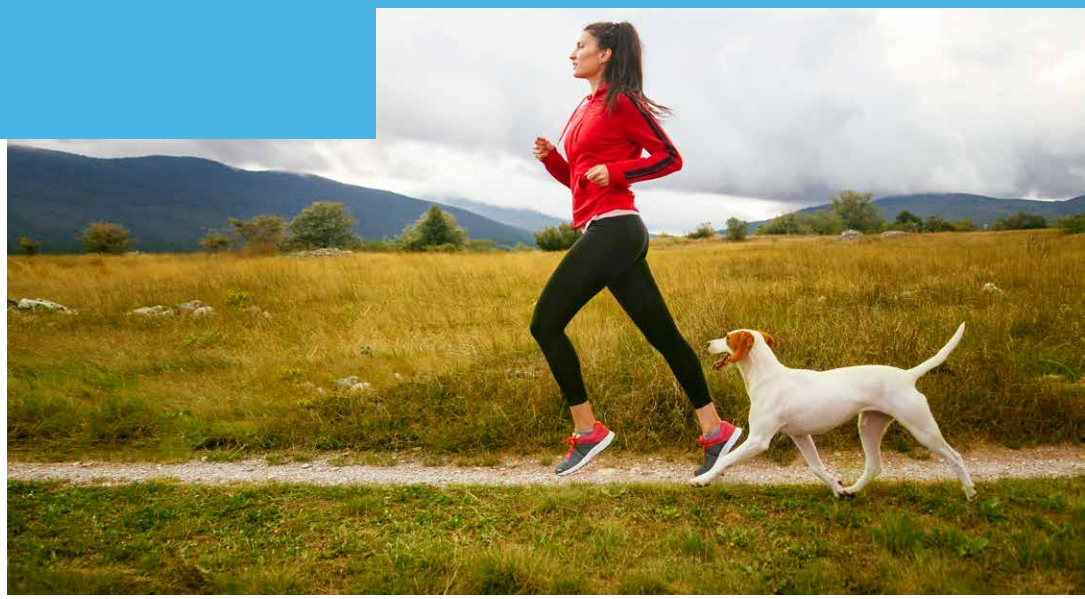
Note: * Industrial plus products offer shorter write time at 4 ms compared to industrial products (5 ms)

MICROWIRE - INDUSTRIAL +85 °C

All products are qualified from -40 to + 85°C. Supply voltage max is 5.5 V.

Part number	Storage capacity (Kbit)	Supply voltage min (V)	Clock frequency max (MHz)	Package options			Specific features
				SO8N	TSSOP8	DFN8	
M93C46-W	1	2.5	2	•	•		-
M93S46-W	1	2.5	2	•			Programmable Block Protection
M93C56-R	2	1.8	2	•	•		-
M93C56-W	2	2.5	2	•	•		-
M93S56-W	2	2.5	2	•			Programmable Block Protection
M93C66-R	4	1.8	2			•	-
M93C66-W	4	2.5	2	•	•		-
M93S66-W	4	2.5	2	•			Programmable Block Protection
M93C76-R	8	1.8	2		•		-
M93C76-W	8	2.5	2	•			-
M93C86-R	16	1.8	2			•	-
M93C86-W	16	2.5	2	•	•		-

Serial Unique ID EEPROM



INTRODUCTION

ST's Unique ID EEPROM provides a seamless and ready-to-use solution designed to meet identification and traceability needs. Cost-effective, it allows developers to easily incorporate a serial number or unique ID into any application without the need for additional components.

This EEPROM, which includes reliable user memory and a factory-programmed, locked 128-bit unique identifier, is available in various densities from 32 Kbit to 2 Mbit.

I^2C - INDUSTRIAL +85 °C

All products are qualified from -40 to + 85°C. Supply voltage max is 5.5 V.

Part number	Storage capacity (Kbit)	Temperature range (°C)	Power supply range (V)	Clock frequency max (MHz)	Package options					Specific features
					SO8N	TSSOP8 *	DFN8 *	DFN5 *	WLCSP *	
M24C32-U	32	-40 to +85	1.7 to 5.5	1	•					Programmed 128-bit serial number
M24C64-U	64	-40 to +85	1.7 to 5.5	1	•					Programmed 128-bit serial number
M24C128-U	128	-40 to +85	1.7 to 5.5	1	•					Programmed 128-bit serial number
M24256E-U	256	-40 to +85	1.6 to 5.5	1	•					Programmed 128-bit serial number
M24512E-U	512	-40 to +85	1.6 to 5.5	1	•					Programmed 128-bit serial number
M24M01E-U	1024	-40 to +85	1.6 to 5.5	1	•					Programmed 128-bit serial number
M24M02E-U	2048	-40 to +85	1.6 to 5.5	1	•					Programmed 128-bit serial number

Note: * On demand

FIND OUT MORE

www.st.com/unique-id-eeprom

Automotive Serial EEPROM

INTRODUCTION

Serial EEPROM is the most flexible type of non-volatile memory. When many parameters, heavy cycling requirements, safe data retention and high temperature mission profiles are required, EEPROM is the ideal product for high-quality and flexible parameter storage.

For the past 20 years, ST's automotive serial EEPROM has been ranked #1 offering a wide portfolio covering automotive needs and requirements. ST's advanced automotive series is designed to answer new automotive trends while providing increased robustness with AEC-Q100 Grade 0 qualification, PPAP Level 3 compliancy, zero-defect built-in quality, and embedded Error Correction Code for safe and long-lasting data retention

Three industry-standard serial buses are supported:

- Standard I²C EEPROM
- Standard Microwire EEPROM
- Standard SPI EEPROM

FIND OUT MORE

www.st.com/advautoeeprom

SELECT YOUR AUTOMOTIVE SERIAL EEPROM

I²C (-40 TO +125°C)

All products are AEC-Q100 qualified and PPAP Level 3-compliant.

Part number	Storage capacity (Kbit)	Temperature range (°C)	Power supply range (V)	Clock frequency max (MHz)	Package options		
					SO8N	TSSOP8	DFN8
M24C02-A125	2	-40 to +125	1.7 to 5.5	1	•	•	•
M24C04-A125	4	-40 to +125	1.7 to 5.5	1	•	•	•
M24C08-A125	8	-40 to +125	1.7 to 5.5	1	•	•	•
M24C16-A125	16	-40 to +125	1.7 to 5.5	1	•	•	•
M24C32-A125	32	-40 to +125	1.7 to 5.5	1	•	•	•
M24C64-A125	64	-40 to +125	1.7 to 5.5	1	•	•	•
M24128-A125	128	-40 to +125	1.7 to 5.5	1	•	•	•
M24256-A125	256	-40 to +125	1.7 to 5.5	1	•	•	•
M24512-A125	512	-40 to +125	1.7 to 5.5	1	•	•	•
M24M01-A125	1024	-40 to +125	2.5 to 5.5	1	•	•	
M24M02-A125	2048	-40 to +125	2.5 to 5.5	1	•		

All products benefit from a lockable identification page and support datalogging and event recording with 4 million E/W cycles at 25 °C, 1.2 million at 85 °C and 0.6 million at 125 °C (per byte/or per 4 bytes), as well as over 1 billion cycles per device.

SPI (-40 TO +125°C)

All products are AEC-Q100 qualified and PPAP Level 3-compliant.

Part number	Storage capacity (Kbit)	Temperature range (°C)	Power supply range (V)	Clock frequency max (MHz) *	Package options		
					SO8N	TSSOP8	DFN8
M95020-A125	2	-40 to +125	1.7 to 5.5	20		•	•
M95040-A125	4	-40 to +125	1.7 to 5.5	20	•	•	•
M95080-A125	8	-40 to +125	1.7 to 5.5	20	•	•	•
M95160-A125	16	-40 to +125	1.7 to 5.5	20	•	•	•
M95320-A125	32	-40 to +125	1.7 to 5.5	20	•	•	•
M95640-A125	64	-40 to +125	1.7 to 5.5	20	•	•	•
M95128-A125	128	-40 to +125	1.7 to 5.5	20	•	•	•
M95256-A125	256	-40 to +125	1.7 to 5.5	20	•	•	•
M95512-A125	512	-40 to +125	1.7 to 5.5	16	•	•	•
M95M01-A125	1024	-40 to +125	1.7 to 5.5	16	•	•	•
M95M02-A125	2048	-40 to +125	1.7 to 5.5	10	•	•	•
M95M04-A125	4096	-40 to +125	2.5 to 5.5	10	•	•	

Note: * The clock frequency value depends on the Vcc applied. The values given here are based on a 5 V supply.
2. For more options, contact your nearest ST sales office or online support at st.com

SPI (-40 TO +145°C)

All products are AEC-Q100 qualified and PPAP Level 3-compliant.

Part number	Storage capacity (Kbit)	Temperature range (°C)	Power supply range (V)	Clock frequency max (MHz) *	Package options		
					SO8N	TSSOP8	DFN8
M95020-A145	2	-40 to +145	2.5 to 5.5	10		•	
M95040-A145	4	-40 to +145	2.5 to 5.5	10		•	
M95080-A145	8	-40 to +145	2.5 to 5.5	10		•	
M95160-A145	16	-40 to +145	2.5 to 5.5	10		•	
M95320-A145	32	-40 to +145	2.5 to 5.5	10		•	
M95640-A145	64	-40 to +145	2.5 to 5.5	10		•	
M95128-A145	128	-40 to +145	2.5 to 5.5	10		•	
M95256-A145	256	-40 to +145	2.5 to 5.5	10		•	
M95512-A145	512	-40 to +145	2.5 to 5.5	10		•	
M95M01-A145	1024	-40 to +145	2.5 to 5.5	16		•	
M95M02-A145	2048	-40 to +145	2.5 to 5.5	10		•	
M95M04-A145	4096	-40 to +145	2.9 to 5.5	10		•	

Note: * The clock frequency value depends on the Vcc applied. The values given here are based on a 5 V supply. 2. For more options contact your nearest ST sales office or online support at st.com

All products benefit from a lockable identification page and support datalogging and event recording with 4 million E/W cycles at 25 °C, 1.2 million at 85 °C , 0.6 million at 125 °C and 0.4 million at 145 °C (per byte/or per 4 bytes), as well as over 1 billion cycles per device.

MICROWIRE

All products are AEC-Q100 qualified and PPAP Level 3-compliant.

Part number	Storage capacity (Kbit)	Temperature range (°C)	Power supply range (V)	Clock frequency max (MHz)	Package options		Specific features
					SO8N	TSSOP8	
M93C46-A125	1	-40 to +125	1.8 to 5.5	2	•	•	8- or 16-bit organization
M93C56-A125	2	-40 to +125	1.8 to 5.5	2	•	•	8- or 16-bit organization
M93C66-A125	4	-40 to +125	1.8 to 5.5	2	•	•	8- or 16-bit organization
M93C76-A125	8	-40 to +125	1.8 to 5.5	2	•	•	8- or 16-bit organization
M93C86-A125	16	-40 to +125	1.8 to 5.5	2	•	•	8- or 16-bit organization

All products support datalogging and event recording with 4 million E/W cycles at 25 °C, 1.2 million at 85 °C, and 0.6 million at 125 °C (per byte/or per 4 bytes) as well as over 1 billion cycles per device.

FIND OUT MORE

www.st.com/advautoeeprom

SPD EEPROM

INTRODUCTION

The M34E02-F has been designed specifically for use in DRAM dual interline memory module (DIMM) with serial presence detect (SPD). All the information regarding the DDR1, DDR2, or DDR3 configuration of the DRAM module (such as its access speed, size, and organization) can be kept write-protected in the first half of the memory.

M34E04 devices offer 4 Kbit serial EEPROM organized as 4 lockable blocks of 128 bytes each (512 bytes of total memory).

M34E04 devices were specifically designed for use in DDR4 DRAM dual interline memory modules (DIMM) with Serial Presence Detect. All the information regarding the DRAM module configuration (such as its access speed, size, and organization) can be kept write-protected in one or more memory blocks. M34E04 devices are compliant with Jedec EE1004 and compatible with previous M34E02-F devices thanks to page selection commands.

All products are qualified from -40 to + 85°C or 0 to +95°C. Supply voltage max is 5.5 V.

Part number	Storage capacity (Kbit)	Operating temperature (°C)	Power supply range (V)	Clock frequency max (MHz)			Specific features
					TSSOP8	DFN8	
M34E02-F	2	-40 to +85	1.7 to 5.5	1	•	•	Data lock for lower 128-byte block
M34E04	4	0 to +95	1.7 to 5.5	1		•	Data lock by block of 128 bytes
M34E04B	4	0 to +95	1.7 to 5.5	1		•	Data lock by block of 128 bytes No hardware write control

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www.st.com/spdeeprom

Serial Page EEPROM

INTRODUCTION

Serial Page EEPROM is an ultra-low-power high-density SPI EEPROM memory that combines EEPROM benefits (such as byte level flexibility and high endurance) with Serial Flash benefits (including dual/quad output, fast program and erase operation). Ideal for systems that require:

- Ultra-low power operations
- Firmware storage
- Parameter monitoring (datalogging or event recording)

SELECT YOUR SERIAL PAGE EEPROM

SPI - INDUSTRIAL +85°C

All products are qualified from -40 to +85°C. Supply voltage max is 3.6 V.

Part number	Storage capacity (Kbit)	Temperature range (°C)	Power supply range (V)	Clock frequency max (MHz)	Package options			Specific features
					SO8N	DFN8	WLCSP8	
M95P08-I	8192	-40 to +85	1.6 to 3.6	80	•	•	•	Software write protection, Lockable identification page
M95P16-I	16384	-40 to +85	1.6 to 3.6	80	•	•	•	Software write protection, Lockable identification page
M95P32-I	32768	-40 to +85	1.6 to 3.6	80 *	•	•	•	Software write protection, Lockable identification page

SPI - INDUSTRIAL PLUS +105°C

All products are qualified from -40 to +105°C. Supply voltage max is 3.6 V.

Part number	Storage capacity (Kbit)	Temperature range (°C)	Power supply range (V)	Clock frequency max (MHz)	Package options			Specific features
					SO8N	DFN8	WLCSP8	
M95P08-E	8192	-40 to +105	1.6 to 3.6	80	•			Software write protection, Lockable identification page
M95P16-E	16384	-40 to +105	1.6 to 3.6	80	•			Software write protection, Lockable identification page
M95P32-E	32768	-40 to +105	1.6 to 3.6	80 *	•			Software write protection, Lockable identification page

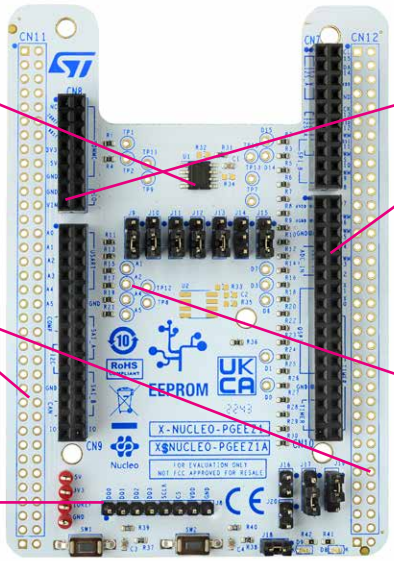
Note: * The clock frequency value depends on the Vcc applied.

PROTOTYPE WITH STM32 NUCLEO EXPANSION BOARDS

M95P32-IxMNT/E

ST morpho extension pins:
Direct access to all MCU I/Os

Page EEPROM test pins:
All signals accessible for monitoring



Arduino Uno & ST Zio connectors:
compatible with 64 and 144-pin
Nucleo

Free slot: To connect any 8-pin
EEPROM or NVM in SO8N
package

X-NUCLEO-PGEEZ1

FIND OUT MORE

www.st.com/page-eeprom

EEPROM ordering information

Device type

M24	I²C Serial Bus
M95	SPI Serial Bus
M34	ASSP SPD
M93C	MICROWIRE Serial Bus
M93S	MICROWIRE Serial Bus + software write protect

Density

	I²C	SPI	MICROWIRE	SPD
1 Kbit	C01	010	46	
2 Kbit	C02	020	56	E02
4 Kbit	C04	040	66	E04
8 Kbit	C08	080	76	
16 Kbit	C16	160	86	
32 Kbit	C32	320		
64 Kbit	C64	640		
128 Kbit	128	128		
256 Kbit	256	256		
512 Kbit	512	512		
1 Mbit	M01	M01		
2 Mbit	M02	M02		
4 Mbit	M04	M04		
8 Mbit		P08		
16 Mbit		P16		
32 Mbit		P32		

Technology options

Blank	Hardware write protect and device address
E	Hardware/Software write protect, Configurable device address
X	Software write protect, Configurable Device address

Optional feature

B	Legacy digit (M24128, M24256)
D	Additional Lockable identification page
E	Extended temperature range, -40 to 105°C
I	Industrial temperature range, -40 to 85 °C
U	Unique ID

Voltage range (V)

F	1.7 to 5.5 and 1.6 under conditions
R	1.8 to 5.5
W	2.5 to 5.5
X	1.6 to 3.6 or 5.5

Package

MN	SO8N
DW	TSSOP8
MC	DFN8 2x3
MF	DFN8 2x3
MG	DFN8 4x4
MH	DFN5 1.7x1.4
CS	WLCSP
CT	Thin WLCSP
CU	Ultrathin WLCSP

Temperature range (°C)

3	-40 to 125
4	-40 to 145
6	-40 to 85
8	-40 to 105
9	0 to 95

Packing

T	Tape & reel
Blank	Tube

Optional

P, G	Legacy digit for RoHS-compliant and halogen-free

Process

E	E40
EF	E40 WLCSP with back side coating
K	F8H
T	F8H+
TF	F8H+, Back side coating
V	F9V
VF	F9V, Back side coating

Note: Not all combinations are available. For bare die ordering information, please contact your nearest ST Sales Office.

At STMicroelectronics we create technology that starts with You

MIX
Paper from responsible sources
FSC® C003379

Order code: **BR2511EEPROM**

For more information on ST products and solutions, visit www.st.com