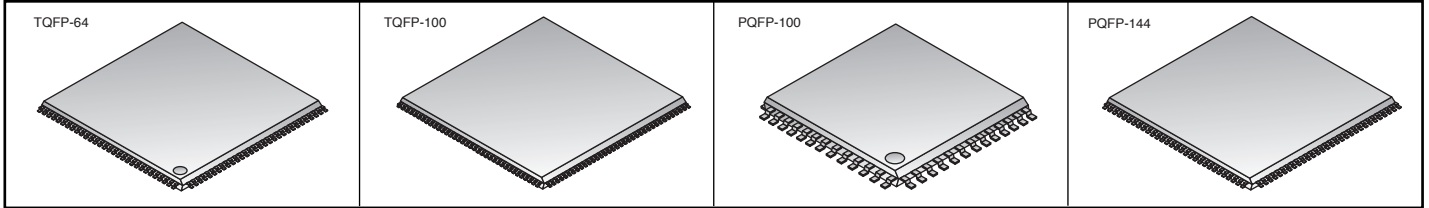


STMICROELECTRONICS Current 8 and 16-Bit Microcontrollers

STMICROELECTRONICS



ST9 HIGH PERFORMANCE STANDARD CORE ARCHITECTURE 8/16-BIT

The rapidly growing area of real-time applications represents one of the most demanding operating environments for today's microcontrollers. Processors are required to execute complex control algorithms, within a defined minimum response time. With the increasing complexity of embedded control applications, a significant increase in CPU performances and peripheral functionality over conventional 8-bit controllers is required. Designed to meet market needs for cost-effective, high-performance MCUs, the ST9 family bridges the gap between the worlds of 8 and 16-bit microcontrollers and covers a large range of requirements in the high-end 8-bit and low-end 16-bit applications. With an ST9 microcontroller you have the 16-bit performance (sophisticated data manipulation, real time event handling) and the 8-bit advantages (price, noise, power consumption,...). With the ST9 family, STMicroelectronics offers significant performance and flexibility advantages over traditional 8-bit microcontrollers. It is the unequalled solution for more performance. It provides innovative answers to your embedded control requirements with competitive MCU solutions for today and tomorrow.

Abbreviations:
 BLPD = Byte level protocol decoder
 CAN = Controller area network
 I2C = Inter-integrated circuit
 PLL = Phase locked loop
 SCI = Serial communications interface
 SPI = Serial peripheral interface

For quantities of 100 and up, call for quote.

MOUSER STOCK NO.		Package Type	Features & Characteristics										Price Each
Mfr.	Mfr. Part Number		Prog. Mem.	Memory Type	RAM	E ² PROM	A/D inputs	Timers	Serial Interface	I/Os (HI-Curr)	Special Features	1-99	
Surface Mount													
511	—ST92F150CR1TC	TQFP-64	128K	Flash EEPROM	4K	1K	8x10-Bit	3x16-Bit	SPI/SCI/I2C/CAN	48	CAN, PLL clock, low-power	13.14	
511	—ST92F150CV1QB	PQFP-100	128K	Flash EEPROM	4K	1K	16x10-Bit	5x16-Bit	SPI/2SCI/I2C/CAN	77	CAN, PLL clock, low-power	14.10	
511	—ST92F150CV1TB	TQFP-100	128K	Flash	4K	1K	16x10-Bit	5x16-Bit	SPI/2SCI/I2C/CAN	77	WDG, CAN 2.0B active, PLL clock, low-power, LIN master	15.89	
511	—ST92F150JDV1QC	PQFP-100	128K	Flash	4K	1K	16x10-Bit	5x16-Bit	SPI/2SCI/I2C/CAN	77	WDG, CAN 2.0B active, PLL clock, low-power, LIN master	16.38	
511	—ST92F150JDV1TC	TQFP-100	128K	Flash	4K	1K	16x10-Bit	5x16-Bit	SPI/2SCI/I2C/CAN	77	WDG, CAN 2.0B active, PLL clock, low-power, LIN master	15.82	
511	—ST92F250CV2TB	TQFP-100	256K	Flash EEPROM	8K	1K	16x10-Bit	5x16-Bit	SPI/2SCI/I2C/CAN	77	2-CAN, PLL clock, J18520 BLPD	18.82	
511	—ST92F250CV2QB	PQFP-100	256K	Flash EEPROM	8K	1K	16x10-Bit	5x16-Bit	SPI/2SCI/I2C/CAN	80	CAN, PLL clock, low-power	16.30	

ST9 EVALUATION BOARD

The aim of this Evaluation Board is to provide the user with a ready-to-use hardware environment for ST9 general purpose microcontrollers. The kit contains the hardware required for testing the principal peripherals, such as timers, SPI and SCI interfaces, A/D converters and I/O Ports. This kit, however, does not contain CAN and J1850 devices, but a wire-wrap area, available for connecting specific components, is included and can be used to connect CAN or J1850 transceivers. If the same peripheral is present several times on the MCU (e.g. the multifunction timer on the ST92F120/F124/F150/F250) the board may be used to test at least one of them, but not always all of them.

- Motherboard for ST9 Evaluation Board
- ST92F120-PQFP100 daughterboard
- ST92F150-TQFP64 daughterboard
- AC/DC adaptor
- RS232 serial cable (male-Male)

MOUSER STOCK NO.		Supported Devices	Price Each
Mfr.	Mfr. Part Number		1-99
511	—ST92F150-EVAL	ST92F120, ST92F124, ST92F150, ST92F250	1168.70

EMULATORS FOR THE ST9 FAMILY

The ST9 real time development system consists of various hardware and software components, which together form a flexible and sophisticated system designed to provide comprehensive development support for the ST9 family of microcontrollers.

- Hardware Features:**
- Clock source selectable
 - 4 MHz oscillator on probe
 - 5 MHz oscillator on probe
 - 5 MHz quartz on probe
 - TTL source from application
 - Application power up detection
 - 9 external input triggers
 - 1 input trigger on subclock connector
 - 8 input triggers from analyzer probe
 - 2 output triggers (TTL levels)
- Emulator Description:**
- Mainboard is included in a box powered by an external power supply.
 - Microcontroller specific probe
 - Windows based IDE STVD9 software running under Windows 95/98/NT4.0.
 - Emulator is connected to the user application through the probe: ST90158-EMU2B adapts to QFP80 or TQFP80 package.
 - Emulator connected to a host PC or compatible with a standard parallel cable 3V or 5V +/- 10% operating voltage.
 - Up to 24 MHz internal clock operation at 5V and 16 MHz at 3V.

MOUSER STOCK NO.		Supported Devices	Price Each
Mfr.	Mfr. Part Number		1-99
511	—ST92F150EMU2	ST92F120, ST92F150, ST92F250	5633.33
511	—ST92163EMU2	ST92T163	3966.20

ST9 ENGINEERING PROGRAMMING BOARD (EPB)

These engineering programming boards (EPB) feature in-system programming capability for ST9 flash devices. Gang programmers are provided by various third-party vendors. The programming board is linked via a parallel port to a host PC running the ST9 Visual Programmer software (STVP9). This software interface allows you to customize and control the programming.

- Hardware Features:**
- Programs all the ST9 EPROM, OTP and Flash microcontrollers
 - Supports In Situ Programming (ISP) for Flash devices.
- Software Features:**
- View & verify microcontroller's memory contents
 - Program executable files into microcontrollers
 - Motorola S19 or Intel Hex file formats
 - Either create a project that defines how to program the microcontroller or load the files whose contents you want to program and then execute the program.
 - Motorola S19 or Intel Hex file formats

MOUSER STOCK NO.		Supported Devices	Price Each
Mfr.	Mfr. Part Number		1-99
511	—ST92F150-EPB/US	ST92F124, ST92F150, ST92F240	812.50
511	—ST92E163EPB/US	ST92T163	350.00

ST10 FAST STANDARD CORE WITH ADVANCED INTERRUPT MANAGEMENT 16-BIT

STMicroelectronics' ST10 processor core has been conceived specifically for embedded applications in custom system-on-chip products for demanding markets like hard disk, CD-ROM drives, DVD, car radio devices and engine management units. The ST10 architecture is a 16-bit instruction word CMOS microcontroller with 4-stage pipeline. Clocking at 40MHz, it executes speed critical routines, so instructions typically execute in 50ns. Building on ST's experience in embedded cores, the ST10 architecture is also based on an analysis of the real needs of system designers and software engineers in some of the fastest-moving segments of the industry, where high performance, low power consumption and fast time to market are all essential.

- CAN = Controller area network
- CAPCOM = Capture compare
- MAC = Multiply accumulator
- PEC = Peripheral event controller
- PWM = Pulse width modulator
- SSC = Single-cycle switching support
- SSP = Synchronous serial port
- USART = Universal sync/asynch receiver transmitter

For quantities of 100 and up, call for quote.

MOUSER STOCK NO.		Package Type	Features & Characteristics										Price Each
Mfr.	Mfr. Part Number		Prog. Mem.	Memory Type	RAM	A/D inputs	Timers	Serial Interface	I/Os (HI-Curr)	Special Features	1-99		
Surface Mount													
511	—ST10R172LT1	TQFP-100	ROM less	None	1K	-----	5x16-Bit	USART/SSP	77	WDG, 50MHz, ROMless, PEC, PWM	8.88		
511	—ST10R172LT6	TQFP-100	ROM less	None	1K	-----	5x16-Bit	USART/SSP	77	WDG, 50MHz, ROMless, PEC, PWM	7.14		
511	—ST10R272LT1	TQFP-100	ROM less	None	1K	-----	5x16-Bit	USART/SSP	77	WDG, 50MHz, ROMless, PEC, PWM, MAC	7.50		
511	—ST10R272LT6	TQFP-100	ROM less	None	1K	-----	5x16-Bit	USART/SSP	77	WDG, 50MHz, ROMless, PEC, PWM, MAC	8.19		
511	—ST10R167-Q3	PQFP-144	ROM less	None	4K	16x10-Bit	5x16-Bit	USART/SSC/CAN	111	WDG, 25MHz, PEC, CAN, PWM, CAPCOM	19.25		
511	—ST10F269Z2Q3	PQFP-144	256K	Flash	12K	16x10-Bit	5x16-Bit	USART/SSC/2xCAN	111	PEC, CAN, PWM, CAPCOM, MAC	46.28		
511	—ST10F269Z2Q6	PQFP-144	256K	Flash	12K	16x10-Bit	5x16-Bit	USART/SSC/2xCAN	111	PEC, CAN, PWM, CAPCOM, MAC	40.25		