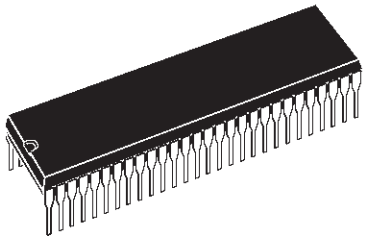
SGS-THOMSON MICROELECTRONICS

ST92163

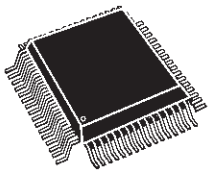
8/16-BIT HIGH SPEED USB MCUs WITH 16K ROM, 2K RAM, 8 USB FUNCTIONS, I^2C, SCI, MFT & WDT TIMER,

BRIEF DATA

- USB interface compliant with USB specifications version 1.0 having the following capabilities:
  - USB Embedded Functions having up to 8 internal functions (including 1 for virtual HUB operations when multiple functions are required) sharing a maximum of 16 fully configurable endpoints with programmable buffer sizes and supporting all types of USB data types (Isochronous included)
  - On-chip USB Transceivers and 3.3 voltage regulator.
- Master-Slave I^2C-bus serial interface up to 400KHz
- UART with DMA capability up to 315 Kb/s supporting IRDA 115.2 kb/s sepcifications
- Synchronous serial interface with DMA capabilities up to 2 MHz
- External memory interface with DMA capability from the SIE
- 7 external interrupts
- 16-bit Multi-Function Timer (13 operating modes) with DMA capabilities
- Watchdog timer
- 4 channels 8-bit Analog to Digital Converter
- 43 Fully programmable I/Os with 4 high current pads (10 mA @ 1 V)
- Programmable PLL clock generator (RCCU) using a low frequency external quartz (8 MHz)
- Internal Memories: 16 Kbytes ROM, 2 Kbytes RAM
- Register oriented 8/16 bit CORE with RUN, WFI, SLOW, HALT and STOP modes
- Rich Instruction Set with 14 Addressing Modes
- 0 - 24 MHz Cpu clock Operation, 4 - 5.5 Volt voltage range
- Minimum instruction cycle time: 167 ns (@24 MHz CPU frequency)
- Division-by-zero trap generation
- 0 ^oC to 70 ^oC temperature range



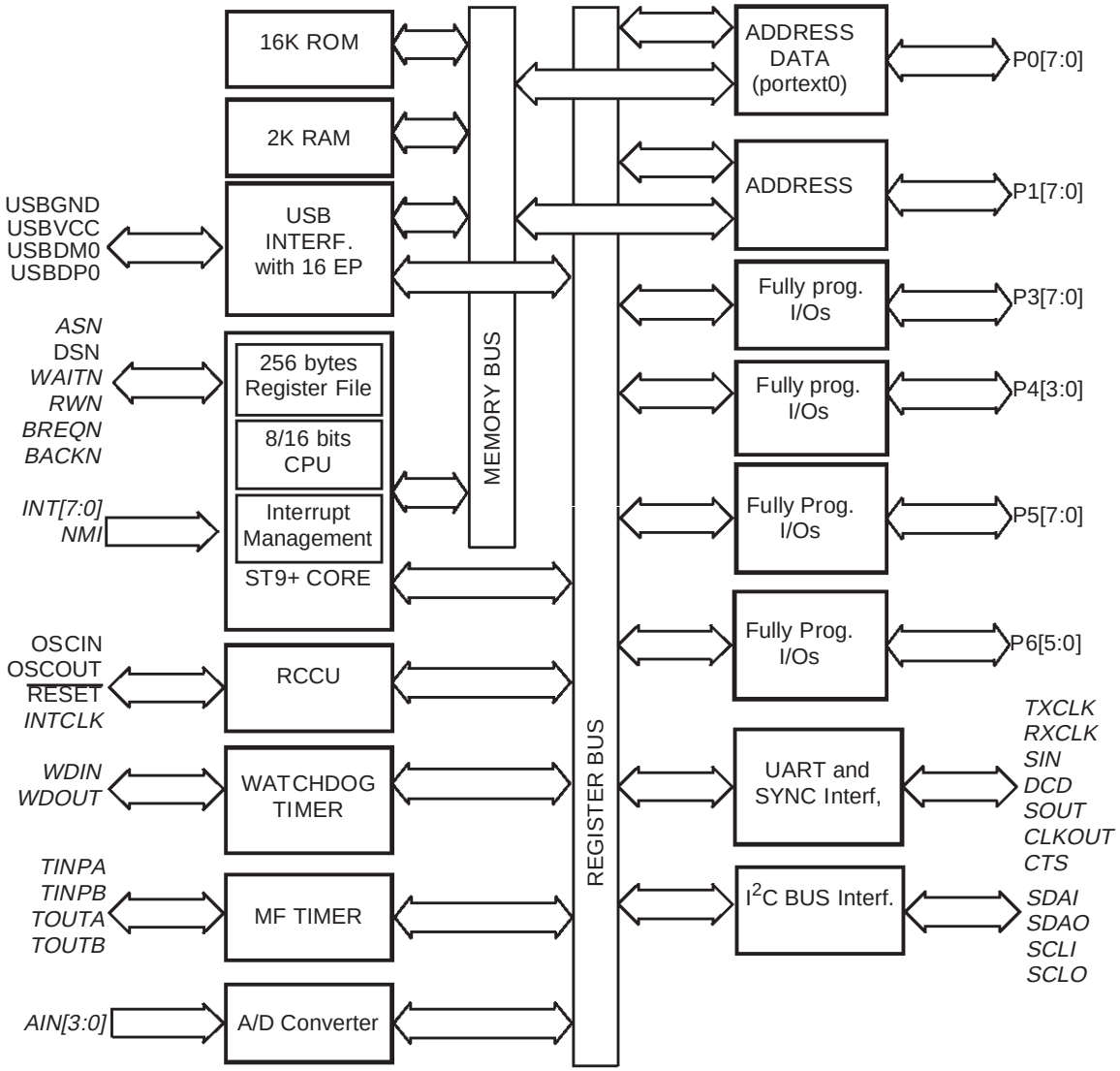
PSDIP56



PQFP64

- 224 general purpose registers available as RAM, accumulators or index pointers (register file)
- 56-pin Shrink Dual In-Line plastic package or 64-pin Quad Flat Pack plastic package
- Low EMI design supporting single sided PCB
- Versatile Development Tools, including assembler, linker, C-compiler, archiver, source level debugger and hardware emulators, and Real Time Operating System

Figure 1. ST92163 Architectural Block Diagram



All alternate functions (*Italic characters*) are mapped on Ports 3, 4, 5 and 6

SGS-THOMSON MICROELECTRONICS

ST92E163
ST92T163

8/16-BIT HIGH SPEED USB MCUs WITH 16K EPROM/OTP, 2K RAM, 8 USB FUNCTIONS, I^2C, SCI, MFT & WDT TIMER,

PRODUCT PREVIEW

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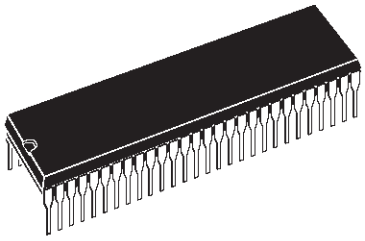
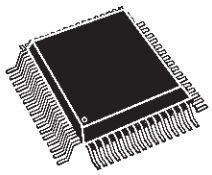
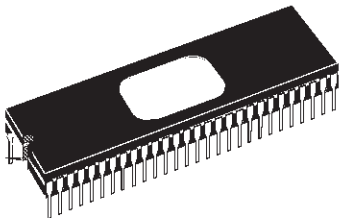


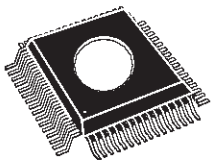
PSDIP56



PQFP64



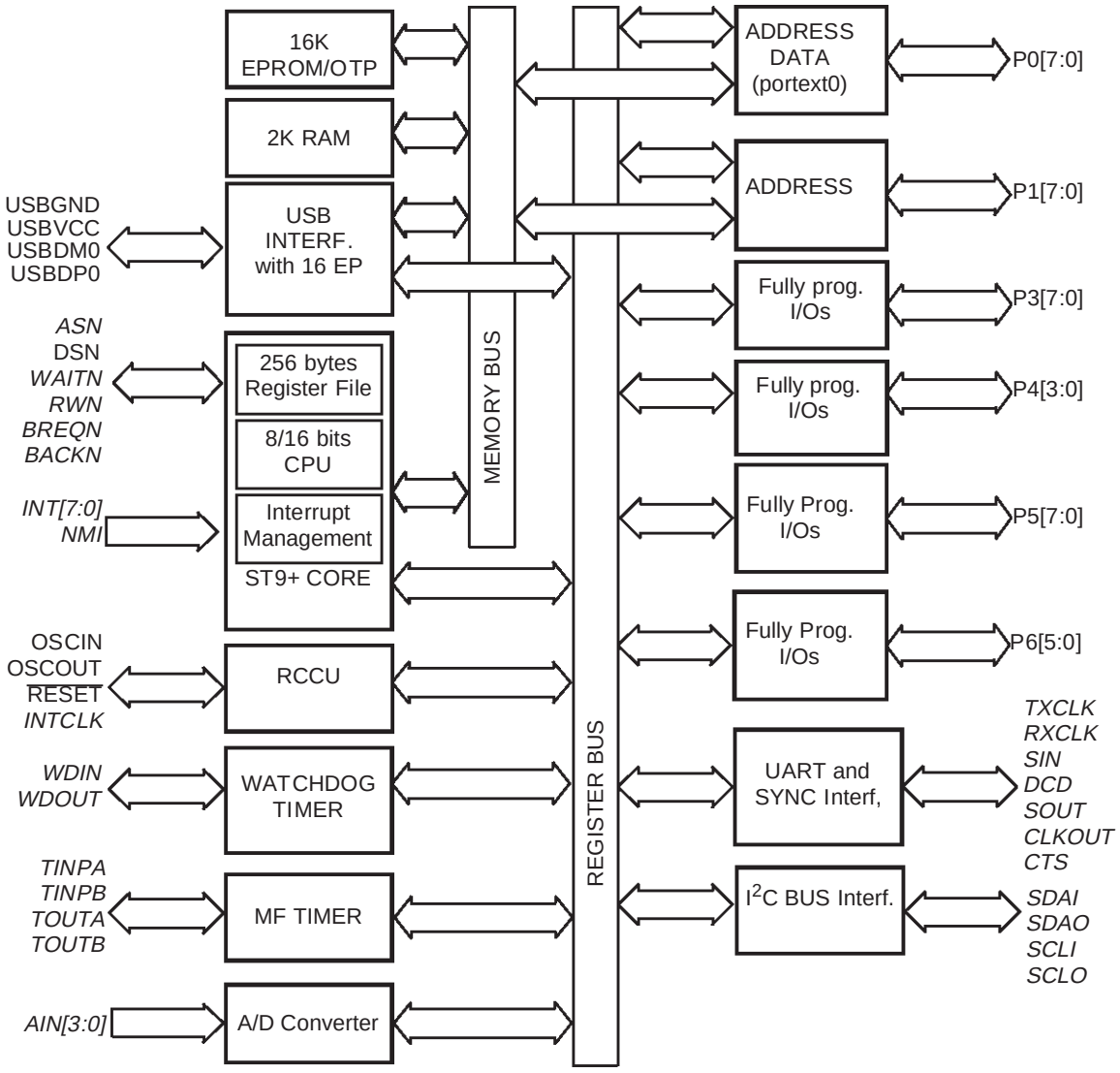
CSDIP56



CQFP64

- 56-pin Shrink Dual In-Line plastic/ceramic package or 64-pin Quad Flat Pack plastic/ ceramic package
- Low EMI design supporting single sided PCB
- Versatile Development Tools, including assembler, linker, C-compiler, archiver, source level debugger and hardware emulators, programmers and Real Time Operating System

Figure 2. ST92E163/ST92T163 Architectural Block Diagram



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