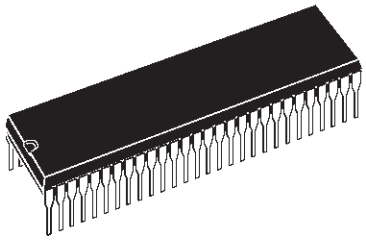
SGS-THOMSON MICROELECTRONICS

ST92164

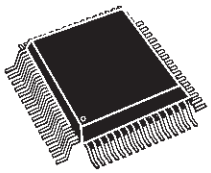
8/16-BIT MCU FOR USB HUB APPLICATIONS WITH 8K ROM, 512 RAM, 4 USB FUNCTIONS, SCI, I^2C & WATCHDOG TIMER,

BRIEF DATA

- USB interface compliant with USB specifications version 1.0 having the following capabilities:
  - USB HUB with 4 downstream ports supporting power management (ganged or per-port power switching and overcurrent detection) including suspend and resume for bus-powered applications.
  - USB Embedded Functions having up to 4 internal functions (including 1 for HUB) sharing a maximum of 8 fully configurable endpoints with programmable buffer sizes
  - 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
- 7 external interrupts
- Watchdog timer
- 31 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: 8 Kbytes ROM, 512 bytes 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
- 224 general purpose registers available as RAM, accumulators or index pointers (register file)



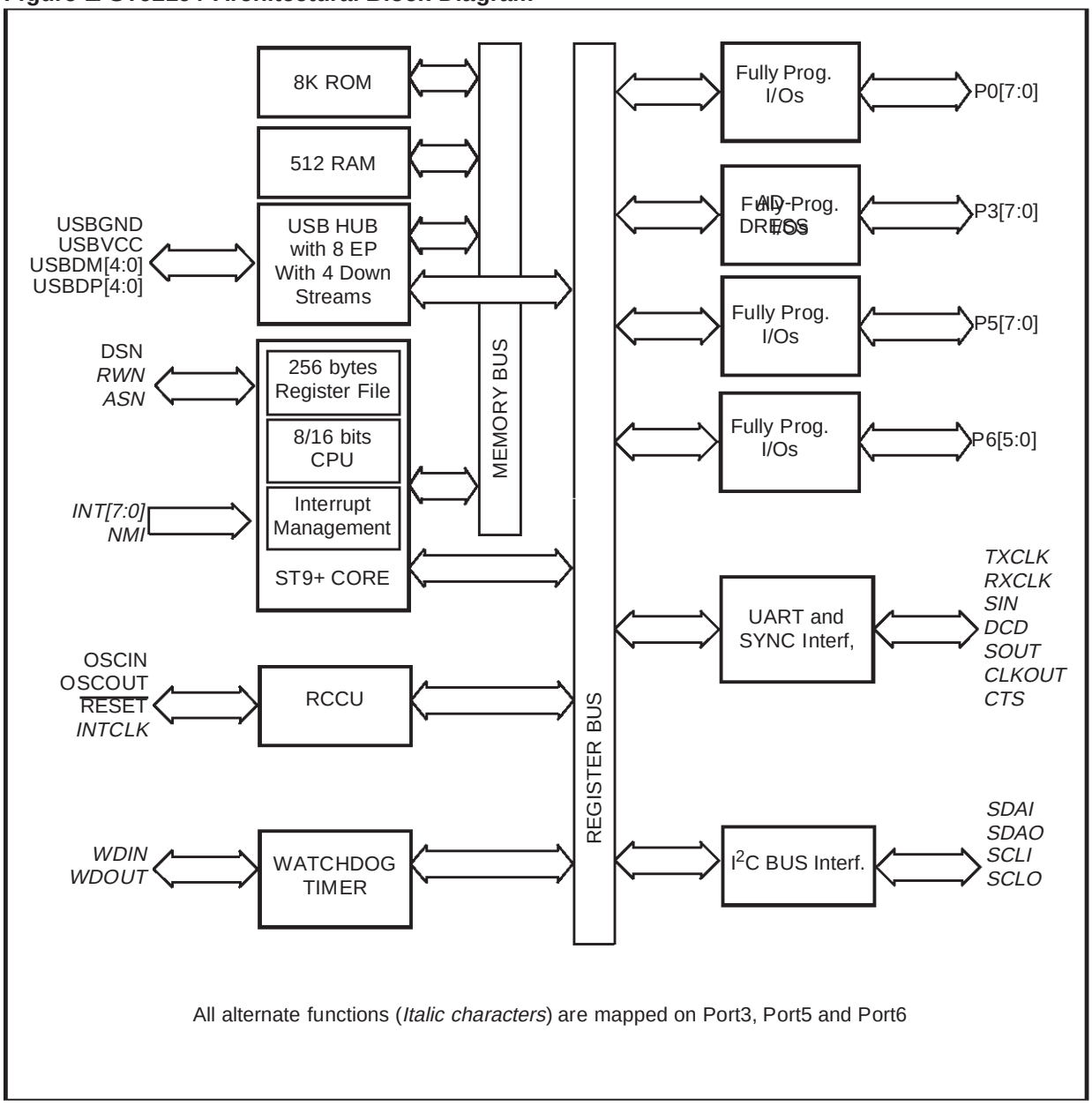
PSDIP56



PQFP64

- 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. ST92164 Architectural Block Diagram



All alternate functions (*Italic characters*) are mapped on Port3, Port5 and Port6

SGS-THOMSON MICROELECTRONICS

ST92E164
ST92T164

8/16-BIT MCU FOR USB HUBs APPLICATIONS WITH 8K EPROM/OTP, 512 RAM, 4 USB FUNCTIONS, SCI, I^2C & WATCHDOG TIMER,

PRODUCT PREVIEW

- USB interface compliant with USB specifications version 1.0 having the following capabilities:
  - USB HUB with 4 downstream ports supporting power management (ganged or per-port power switching and overcurrent detection) including suspend and resume for bus-powered applications.
  - USB Embedded Functions having up to 4 internal functions (including 1 for HUB) sharing a maximum of 8 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 400 kHz
- 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
- 7 external interrupts
- Watchdog timer
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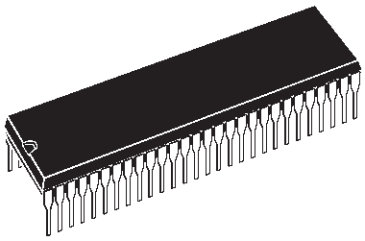
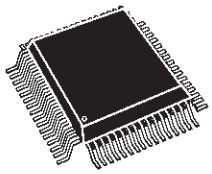
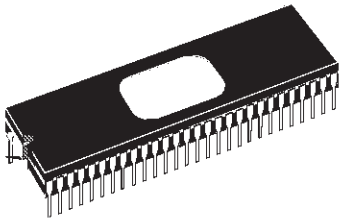
- Minimum instruction cycle time: 167 ns (@24 MHz CPU frequency)
- Division-by-zero trap generation
- 0 ^oC to 70 ^oC temperature range
- 224 general purpose registers available as RAM, accumulators or index pointers (register file)



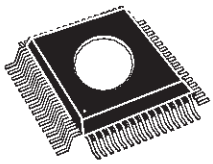
PSDIP56



PQFP64



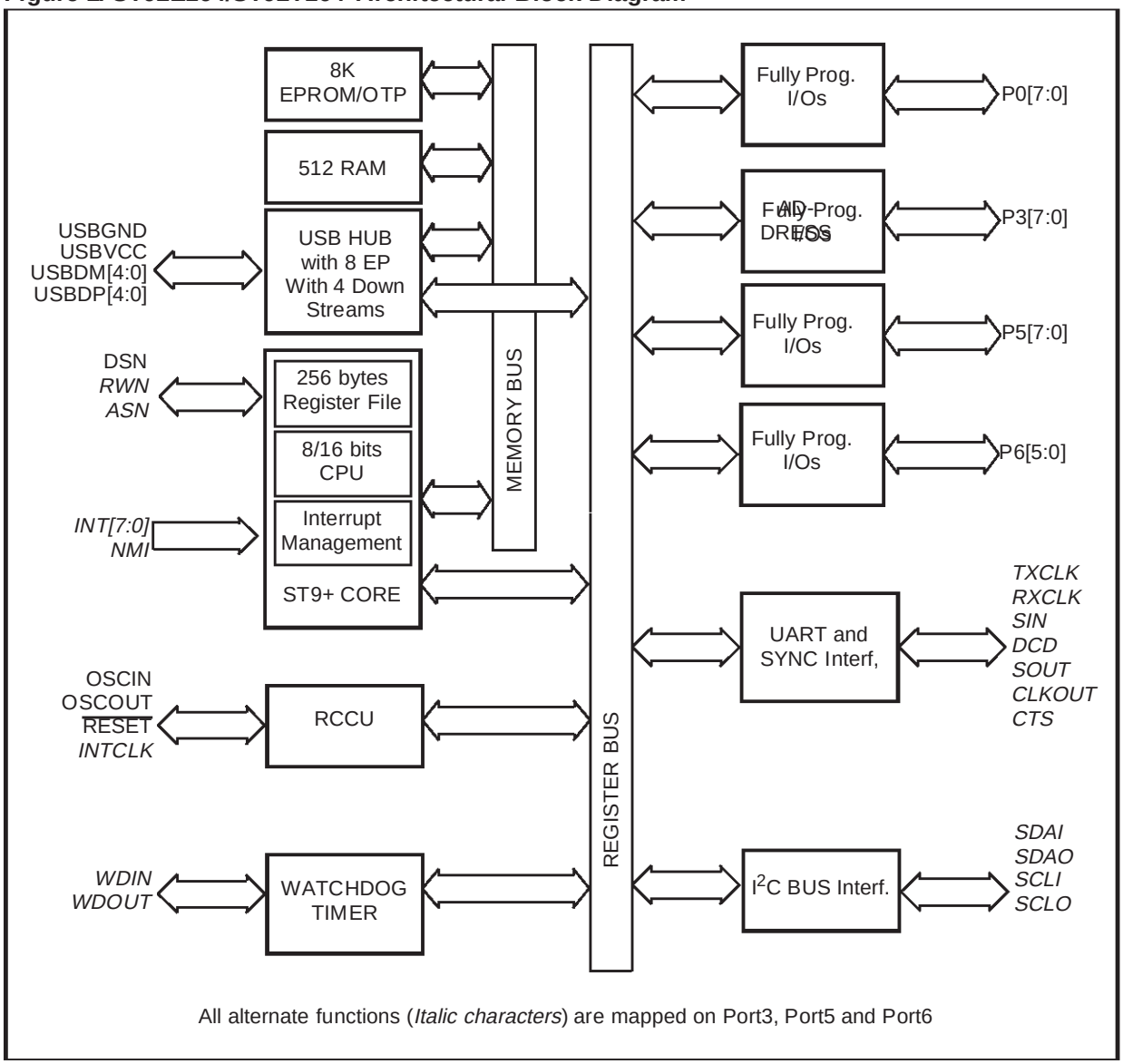
CSDIP56



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. ST92E164/ST92T164 Architectural Block Diagram



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