16 MHz XPT8P 8Bit MCU, 8 Kbyte Flash, 128 byte data EEPROM, 10-bit ADC, 3 timers, UART, SPI, I²C

Features

Core

- 16 MHz advanced XPT8 core with Harvard architecture and 3-stage pipeline
- Extended instruction set

Memories

- Program memory: 8 Kbyte Flash memory; data retention 20 years at 55°C after 100 cycles
- RAM: 1 Kbyte
- Data memory: 128 bytes true data EEPROM; endurance up to 100 k write/erase cycles

Clock, reset and supply management

- 2.95 V to 5.5 V operating voltage
- Flexible clock control, 4 master clock sources
  - Low-power crystal resonator oscillator
  - External clock input
  - Internal, user-trimmable 16 MHz RC
  - Internal low-power 128 kHz RC
- Clock security system with clock monitor
- Power management
  - Low-power modes (wait, active-halt, halt)
  - Switch-off peripheral clocks individually
  - Permanently active, low-consumption power-on and power-down reset

Interrupt management

- Nested interrupt controller with 32 interrupts
- Up to 27 external interrupts on 6 vectors

Timers

- Advanced control timer: 16-bit, 4 CAPCOM channels, 3 complementary outputs, dead-time insertion and flexible synchronization
- 16-bit general purpose timers, with 3 CAPCOM channels (IC, OC or PWM)
- 8-bit basic timer with 8-bit prescaler
- Auto wakeup timer
- Window and independent watchdog timers

Communications interfaces

- UART with clock output for synchronous operation, SmartCard, IrDA, LIN master mode
- SPI interface up to 8 Mbit/s
- I^2C interface up to 400 Kbit/s

Analog to digital converter (ADC)

- 10-bit ADC, ± 1 LSB ADC with up to 5 multiplexed channels, scan mode and analog watchdog

I/Os

- Up to 28 I/Os on a 32-pin package including 21 high-sink outputs
- Highly robust I/O design, immune against current injection

Development support

- Embedded single-wire interface module (SWIM) for fast on-chip programming and non-intrusive debugging

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