

SX

Fastest 8-bit Microcontroller in the World

50 MIPS PERFORMANCE

- DC-50MHz operation
- 1 instruction per clock (branches 3)
- 20ns instruction cycle, 60ns interrupt response

E²FLASH PROGRAM MEMORY

- In-system programming via OSC pins
- Internal access time of 12ns provides single cycle access
- E²Flash rated for 10,000 cycles

FAST INTERRUPTS

- Hardware context save/restore of PC, W, STATUS, and FSR
- Jitter-free 3-cycle interrupt response
- RB pins provide interrupt/wakeup-on-change

FLEXIBLE I/O

- All pins individually programmable as inputs or outputs
- Inputs are TTL or CMOS level selectable
- All pins have selectable internal pull-ups (~20kΩ to VDD)
- RB and RC input pins selectable as Schmitt Trigger
- All outputs capable of sinking/sourcing 30ma
- RA outputs have symmetrical drive (same Vdrop +/-)
- Analog comparator on RB (RBO out, RB1 in-, RB2 in+)

COMPONENT REDUCTION

- Internal oscillator (off, 4MHz-2^{0.7} +/-8%) lowers EMI and power consumption
- Built-in brown-out detector (4.0V, enabled/disabled)
- Power-on-reset, multi-input wakeup

DESIGNED FOR PIC16C5X[®] COMPATIBILITY

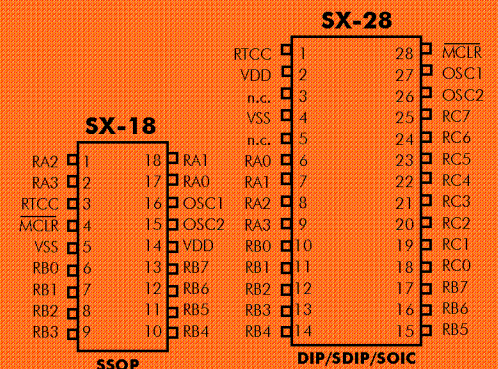
WITH ENHANCEMENT

- E²Flash and RAM are fuse-reduceable to model '54 through '58
- Ten new instructions for improved code efficiency
- New high-speed interrupts that are easy to use
- Selectable 8-level hardware stack
- C flag fuse-selectable as input to add and subtract operations
- W mappable into RTCC space for increased accessibility
- Code memory is run-time readable (fast lookups & '98 UL compliance)
- Turbo fuse enables 1:1 oscillator to internal clock
- Order-of-magnitude performance increase @ fractional power per MIPS

GENERAL

- E²Flash code memory - 2048 x 12
- RAM registers - 136 bytes
- Operating voltage - 3.3 to 6.25V
- Only 15mA @ 20MHz, 3.3V; 40mA @ 50MHz, 5V
- DIP-18/28, SOIC-18/28, SSOP-20, and SSOP-28 packages
- Complete tools available from Parallax, Inc. (<http://parallaxinc.com>)

INTRODUCING THE SX
SERIES OF 8-BIT CMOS
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