



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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### Supply Voltage: 1.8 to 3.6 V

- Typical sleep mode current <math>< 0.1 \mu\text{A}</math>; retains state and RAM contents over full supply range; fast wakeup of <math>< 2 \mu\text{s}</math>
- Two built-in brown-out detectors cover sleep and active modes

### 12-Bit Analog to Digital Converter

- Up to 75 ksp/s
- Up to 11 external inputs
- External pin or internal VREF (no external capacitor required)
- External conversion start input option
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- Autonomous Burst Mode with 16-bit automatic averaging accumulator
- Built-in temperature sensor

### Dual Comparators

- Programmable hysteresis and response time
- Configurable as interrupt or reset source
- Low current (<math>< 0.5 \mu\text{A}</math>)

### Memory

- 8 kB Flash; in-system programmable in 512-byte sectors; full read/write/erase functionality over the entire supply range
- 768 bytes internal data RAM

### On-Chip Debug

- On-chip debug circuitry facilitates full speed, non-intrusive in-system debug (no emulator required)

### High-Speed 8051 $\mu\text{C}$ Core

- Pipe-lined instruction architecture; executes 70% of instructions in 1 or 2 system clocks
- 25 MIPS peak throughput with 25 MHz clock

### Development Kit: Si1010DK

### Transceiver Features

- Frequency range = 240–960 MHz
- Sensitivity =  $-121 \text{ dBm}$
- FSK, GFSK, and OOK modulation
- Max output power =  $+13 \text{ dBm}$
- RF power consumption
  - 18.5 mA receive
  - 30 mA @  $+13 \text{ dBm}$  transmit
  - 18 mA @  $+1 \text{ dBm}$  transmit
- Data rate = 0.123 to 256 kbps
- Auto-frequency calibration (AFC)
- Antenna diversity and transmit/receive switch control
- Programmable packet handler
- TX and RX 64 byte FIFOs
- Frequency hopping capability
- On-chip crystal tuning

### Digital Peripherals

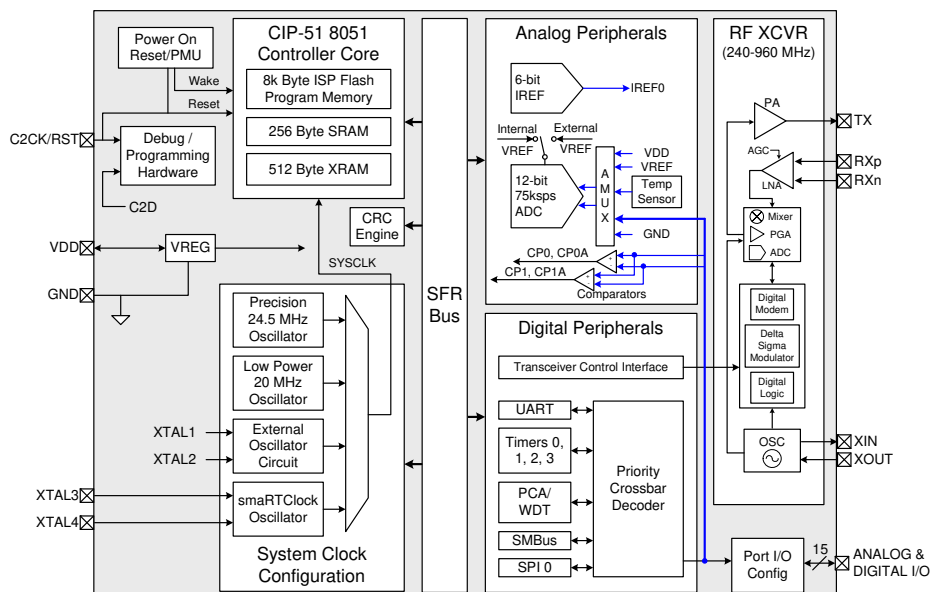
- 15 port I/O
- Hardware enhanced UART, SPI and I<sup>2</sup>C serial ports available concurrently
- Low power 32-bit smaRTClock
- Four general purpose 16-bit counter/timers; six channel programmable counter array (PCA)

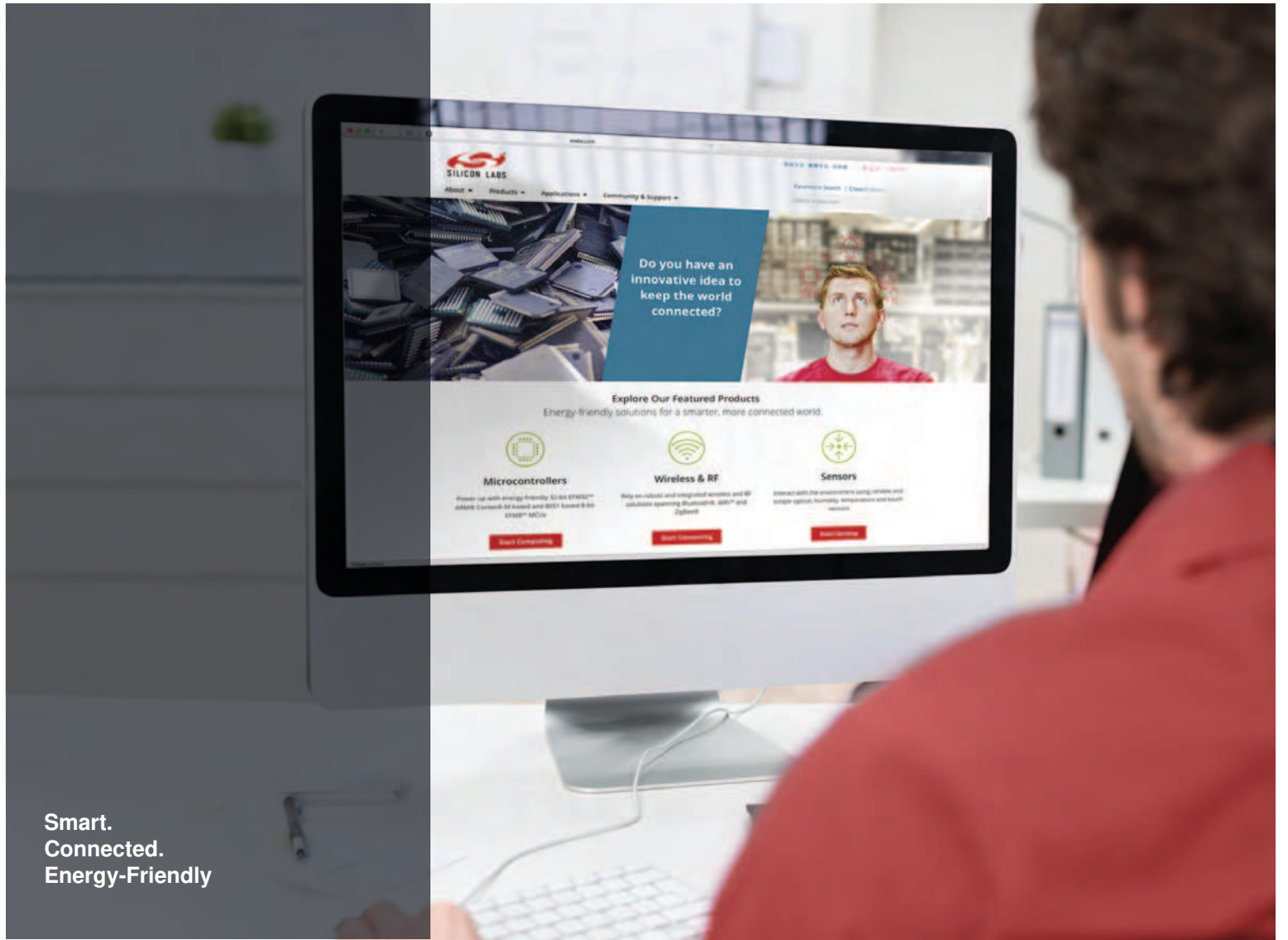
### Clock Sources

- Precision internal oscillators: 24.5 MHz with  $\pm 2\%$  accuracy supports UART operation; spread-spectrum mode for reduced EMI
- Low power 20 MHz internal oscillator
- External oscillator: crystal, RC, C, CMOS clock
- smaRTClock oscillator: 32.768 kHz crystal or self-oscillate

### Ordering Part Number

- Si1013-A-GM, 42-pin QFN, 5 x 7 mm<sup>2</sup>

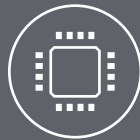




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