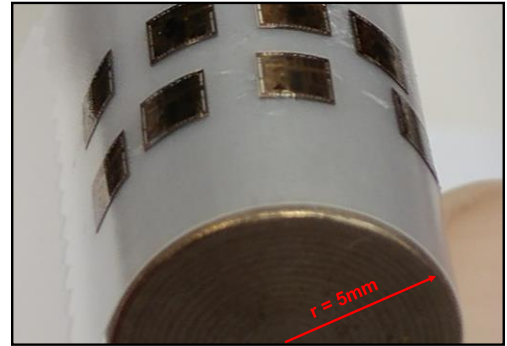


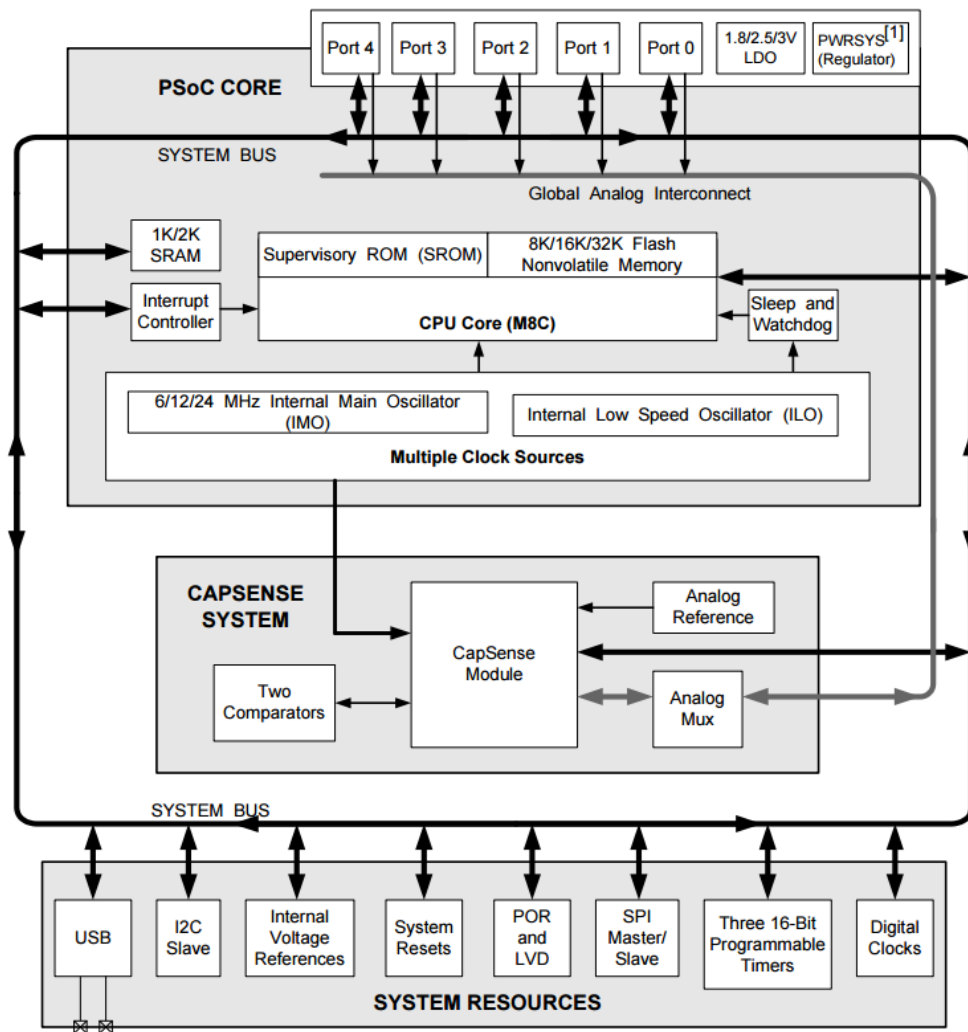
AS_CY8C20 FleX-SoC™ Programmable System-on-Chip

Overview

The FleX-SoC is the industry's first physically flexible microcontroller system-on-chip with high-density flash nonvolatile memory. This FleX-SoC is an ultra-thin, flexible version of a Cypress Semiconductor Programmable System-on-Chip (PSoC® CY8C20XX6A/S). The American Semiconductor FleX™ Silicon-on-Polymer process is used to convert the standard CMOS product into the robust, physically flexible form fact. Initial testing supports applications with 5mm radius of curvatures and is not considered the limit of the device capability. The FleX-SoCs is ideal for Internet of Things (IoT), bio-medical sensing, structural health monitoring, unmanned aerial vehicles (UAV) and similar Flexible Hybrid Electronics (FHE) system integrations.



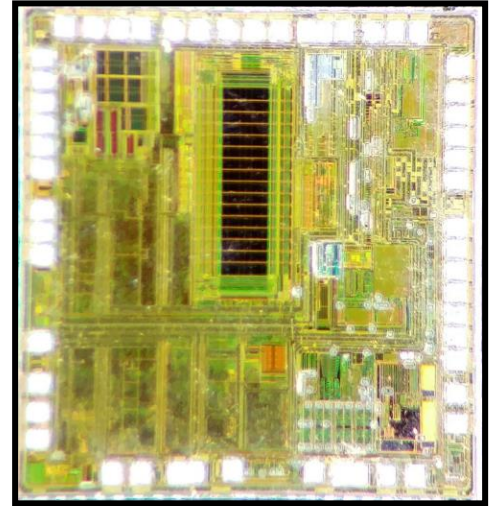
Block Diagram



AS_CY8C20 FleX-SoC™ Programmable System-on-Chip

Physical Specifications

Die Size	2.16mm X 2.28mm
Thickness	25um
Pad Count	53
Pad Size	60um x 70um
Min Pad Spacing	16um – same electrical node 43um – isolated pads
Flexible	Yes
Conformal	Yes



Process Details

Technology	Cypress 180nm CMOS
Interconnect	4-level Aluminum
Flexibility	FleX Silicon-on-Polymer

Features

Operating Voltages	1.71 – 5.5V
Flash Nonvolatile Memory	256Kb (32KB) with 50,000 erase/write cycles
SRAM	16Kb (2KB)
Central Processor Unit	M8C - Harvard Architecture
Input/Output Pins	36 programmable
Operating Frequency	24MHz
Internal Main Oscillator	6/12/24 MHz
Low Power Modes	Standby: 1.1µA and Deep Sleep: 0.1A (Typical)
Low Power CapSense® Block	With SmartSense Auto-tuning
Analog-to-Digital Converter	10-bit incremental
Full-Speed USB	12 Mbps USB 2.0 compliant
I ² C™	1
16-bit Timers	3
Low-Power Watchdog and Sleep Timers	Yes
Analog Comparators	2
Complete development tools	Yes

Ordering Information

Part Number	Description
AS_CY8C20.fxd	FleX-SoC flexible die with recessed Al bond pads
AS_CY8C20P.fxd	FleX-SoC flexible die with 8um Ni/Au plated bond pads

Contact Info

For more information or to purchase FleX products, please contact us at:

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