

# 25 MIPS, 8 kB Flash, 48-Pin Mixed-Signal MCU

## **Analog Peripherals**

#### Two comparators

- Programmable hysteresis
- Configurable to generate interrupts or reset

## V<sub>DD</sub> Monitor and Brown-out Detector

## **On-Chip JTAG Debug**

- On-chip emulation circuitry facilitates full-speed, non-intrusive, in-circuit emulation
- Supports breakpoints, single stepping, watchpoints, inspect/modify memory, and registers
- Superior performance to emulation systems using ICE-chips, target pods, and sockets
- Fully compliant with IEEE 1149.1 specification

### Supply Voltage: 2.7 to 3.6 V

- Typical operating current: 9 mA at 25 MHz
- Typical stop mode current: <0.1 uA

### High-Speed 8051 µC Core

- Pipelined instruction architecture; executes 70% of instructions in 1 or 2 system clocks
- Up to 25 MIPS throughput with 25 MHz system clock
- Expanded interrupt handler; up to 21 interrupt sources

#### Memory

- 1280 bytes data RAM
- 8 kB Flash; in-system programmable in 512 byte sectors (512 bytes are reserved)

#### **Digital Peripherals**

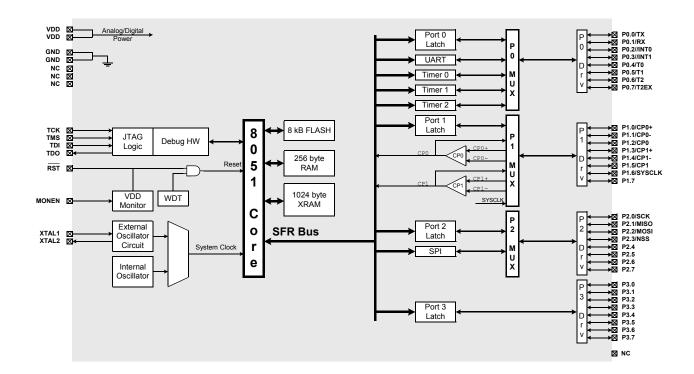
- 32 port I/O; all are 5 V tolerant
- Hardware SPI™ and UART serial ports available concurrently
- 3 general-purpose 16-bit counter/timers
- Dedicated watchdog timer; bidirectional reset

#### **Clock Sources**

- Internal programmable oscillator: 2-16 MHz
- External oscillator: Crystal, RC, C, or Clock
- Can switch between clock sources on-the-fly

#### 48-Pin TQFP

- Temperature Range: -40 to +85 °C



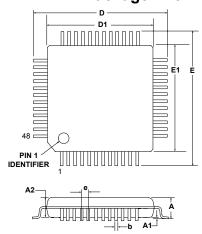


## **Selected Electrical Specifications**

 $(T_A = -40 \text{ to } +85 \text{ C}^{\circ}, V_{DD} = 2.7 \text{ V} \text{ unless otherwise specified unless otherwise specified})$ 

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS		
GLOBAL CHARACTERISTICS							
Supply Voltage		2.7		3.6	V		
Supply Current (CPU	Clock = 25 MHz		9		mA		
active)	Clock = 1 MHz		0.4		mA		
	Clock = 32 kHz; V <sub>DD</sub> Monitor Disabled		11		μA		
Supply Current	Oscillator not running; V <sub>DD</sub> Monitor		10		μA		
(shutdown)	Enabled						
	Oscillator not running; V <sub>DD</sub> Monitor		0.1		μA		
	Disabled						
Clock Frequency Range		DC		25	MHz		
COMPARATORS							
Supply Current	(each comparator)		1.5		μA		
Response Time	(CP+) – (CP-) = 100 mV		4.0		μs		

# **Package Information**



		NOM						
	(mm)	(mm)	(mm)					
Α	-	-	1.20					
Α1	0.05	-	0.15					
<b>A2</b>	0.95	1.00	1.05					
b	0.17	0.22	0.27					
D	-	9.00	-					
D1	-	7.00	-					
е	-	0.50	-					
E	-	9.00	-					
E1	-	7.00	-					

# C8051F226DK Development Kit

