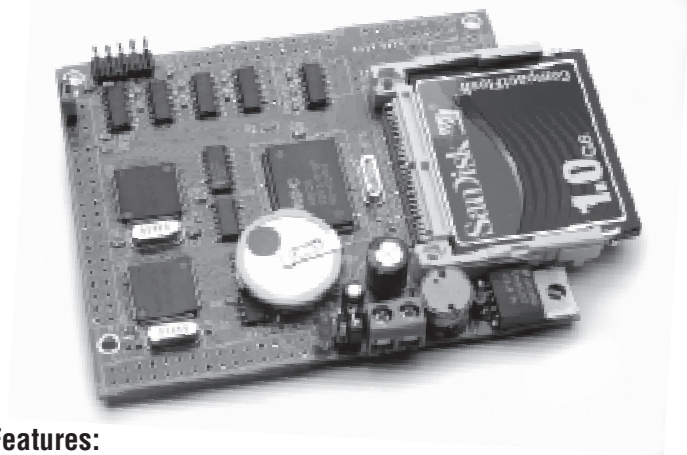
FlashCore-N™ (FN)

RECOMMENDED APPLICATION:
Heavy serial communication (10 UARTs), CompactFlash

NEW!



Features:

- 3.6" x 2.9", -40°C to +80°C
- 40 MHz 16-bit 186, C/C++ programmable.
- 150 mA at 40 MHz, 20 mA low power mode
- 10 UARTs, expandable to 18 serial ports
- 256 KW SRAM, 256KW Flash, 512 bytes EE.
- 40+ I/Os, 3 timers, interrupts
- 16-bit ADCs, DACs, real-time clock and battery
- CompactFlash interface with FAT file system

Summary

The ***FlashCore-N(FN)™*** is a board designed for projects requiring mass serial communication capabilities. It is a C/C++ programmable embedded controller based on 40 MHz 186 CPU with 16-bit external data bus. The ***FN*** integrates 10 UARTs, 8 16-bit ADC inputs, 4 12-bit DACs and a 50-pin CompactFlash interface. In order to support high-speed communications, the ***FN*** serial ports are handled via DMA or deep FIFO (64 bytes), able to handle very high loads without losing any data.

Serial Communications

Two internal UARTs from CPU, and 8 UARTs from 2 QUARTs (TL16C754B) provide a total of 10 UARTs. Six UARTs have on-board RS232 drivers, with handshaking signals (/RTS, and /CTS). One of these RS232 ports can be replaced with optional RS485/422 drivers. The other 4 UARTs provide TTL level signals only. C/C++ software libraries make accessing all ports an easy process.

The two internal UARTs provided by the 186 processor support reliable DMA-driven serial communication up to 115,200 baud.

The two quad UARTs (TL16C754B, TI) provide a total of 8 high speed serial ports, with each port featuring 64-byte transmit and 64-byte receive hardware FIFOs. These deep FIFOs can release processor load and guarantee reliable performance for multi-serial port high speed (up to 2 Mbps) communication. Programmable FIFO trigger level, software XON/XOFF, hardware flow control are all supported.

With dimensions of 3.6x2.9", the high performance 16-bit CPU uses 16-bit ACTF Flash (256 KW) and battery-backed SRAM (256 KW). There are 512-byte serial EEPROM, a real-time clock (DS1337, DS), and TTL I/Os. Six flow-control signals on each QUART can also be configured as general programmable TTL I/Os, adding to the 32 TTL I/Os available from the CPU.

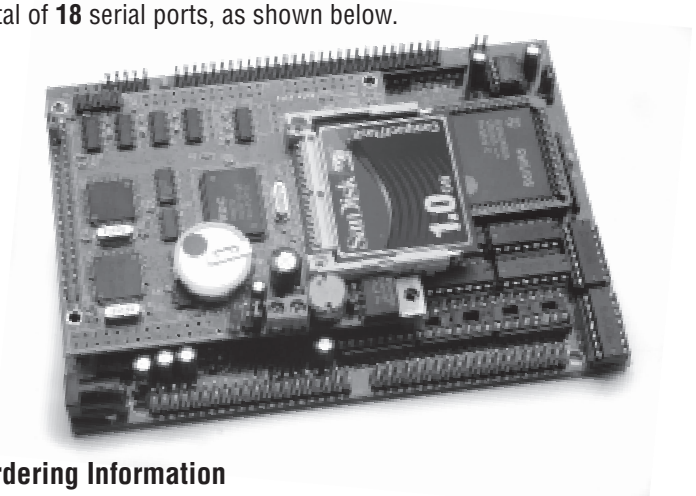
Other Features

An optional 16-bit ADC (ADS8344, TI) provides 8 single-ended or 4 differential analog inputs (0-5V) at a sample rate of up to 10KHz. Two 12-bit DAC chips (DAC7612, TI) provides 4 analog output channels (0-4.095V, 5 mA sink/source).

Similar to other FlashCore variants, the ***FN*** allows access to mass storage CompactFlash cards (up to 1GB). Users can easily add mass data storage to their embedded application via RS232, TTL I2C, or parallel interface. Complete C/C++ programmable software package includes compiler, remote debugger, samples, and file system libraries. Files on the CF can be easily accessed from a PC, making the FN ideal for logging simultaneous serial data from many sources.

An optional switching regulator (LM2575, NS) can be installed. It allows operating power input in the range of 6.5V to 30V DC, and can be shut-down with a single TTL pin.

The ***FN*** can be configured to drive the LittleDrive™, providing a total of **18** serial ports, as shown below.



Ordering Information

FlashCore-N(FN) **$159/$129/$89** **Qty 1/100/1K**

Includes 186, 256KW ACTF Flash, 64KW SRAM, QUART, 6 RS232 ports, 512-byte EE, linear regulator.

NOT including add-on options. OEM option discounts available.

Add-on Options:

1) SRAM 256KW $40
2) RTC+Battery $20
3) 16-bit ADC(ADS8344) $40
4) 12-bit DAC (DAC7612)x2 ..... $40 x 2
5) Switching regulator $30
6) CF interface $20
7) SER1 RS485/422 ..... $10/$20
8) QUART (TTL) $40

Typical Order Example:

FN with 6 UARTs and CompactFlash interface: ***FN*** +6 = $159 + $20 = $179

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