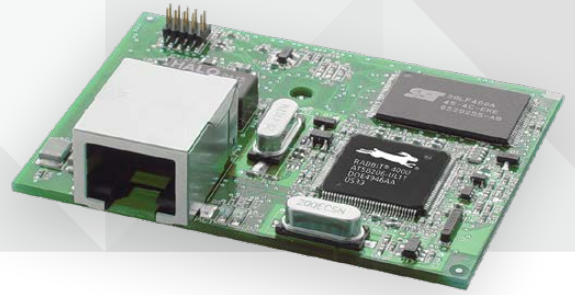




COMMUNICATIONS AND
CONTROL PROCESSOR



DIGI RABBITCORE RCM4000 SERIES

A powerful embedded Ethernet control device with the intelligence and Internet connectivity needed for remote monitoring and control of your devices

The RCM4000 series is designed to mount directly to a user-supplied motherboard and acts as the microprocessor of the embedded system. The microprocessor features 28 GPIO lines shared with up to five serial ports and four levels of alternate pin functions that include variable phase PWM, quadrature decoder and input capture.

The RCM4000 series, with its robust feature set, ample memory, 10Base-T Ethernet and analog, is ready for network

connectivity and I/O control for true device Internet communication and control. Evaluation of the RCM4000 is easy with the RCM4000 development kit.

BENEFITS

- Rabbit 4000 running at 59 MHz
- Up to 1 MB (16-bit) Program Flash, 1 MB (16-bit) SRAM, 32 MB of Flash memory
- 10Base-T Ethernet (RJ-45 connector), up to 28 GPIO, up to 5 serial ports
- 8 channels 12-bit A/D converter
- Web server capability and remote device control
- Low-cost and easily deployable platform for non-critical embedded security
- Security-key feature with “tamper detect” and encryption capabilities

RELATED PRODUCTS



RabbitCore®
RCM4100
Series



RabbitCore®
RCM4200
Series



Rabbit® SBC
BL4S200
Series



RabbitCore®
RCM4300
Series



Dynamic C®

APPLICATION EXAMPLE



COMPUTER
TERMINAL

Ethernet



JUNCTION BOX WHERE
RCM400 RESIDES

BUILDING SECURITY

RABBITCORE® RCM4000



RS-232



Door Sensor



Camera



Door Sensor

| SPECIFICATIONS | | RCM4000 | | RCM4010 | |
|---|--|---|--|---|--|
| FEATURES | | | | | |
| MICROPROCESSOR | | Rabbit® 4000 at 59 MHz | | | |
| EMI REDUCTION | | Spectrum spreader for reduced EMI (radiated emissions) | | | |
| ETHERNET PORT | | 10Base-T, RJ-45, 2 LEDs | | | |
| SRAM (16-BIT) | | 512K | | | |
| FLASH MEMORY (16-BIT) (PROGRAM) | | 512K | | | |
| SERIAL MEMORY (DATA) (NAND FLASH) | | 32 MB (NAND flash) | | — | |
| BACKUP BATTERY | | Connection for user-supplied backup battery (to support RTC and data SRAM) | | | |
| GENERAL PURPOSE I/O | | 22 parallel digital I/O lines: Configurable with 4 layers of alternate functions | | 28 parallel digital I/O lines: Configurable with 4 layers of alternate functions | |
| ADDITIONAL INPUTS | | 2 startup mode, reset in, CONVERT | | 2 startup mode, reset in | |
| ADDITIONAL OUTPUTS | | Status, reset out, analog VREF | | Status, reset out | |
| ANALOG INPUTS | | 8 channels single-ended or 4 channels differential programmable gain 1, 2, 4, 5, 8, 10, 16 and 20 V/V | | — | |
| A/D CONVERTER RESOLUTION | | 12 bits (11 bits single-ended) | | — | |
| A/D CONVERSION TIME (INCLUDING 120 MS RAW COUNTED AND DYNAMIC C®) | | 180 µs | | — | |
| AUXILIARY I/O BUS | | 8 data lines and 6 address lines (shared with parallel I/O lines), plus I/O read/write | | | |
| SERIAL PORTS | | 4 shared high-speed, CMOS-compatible ports: All 4 configurable as asynchronous (with IrDA) or as clocked serial (SPI) 1 asynchronous clocked serial port shared with programming port 1 clocked serial port shared with A/D converter | | 5 shared high-speed, CMOS-compatible ports: All 5 configurable as asynchronous (with IrDA), 4 as clocked serial (SPI), and 1 as SDLC/HDLC 1 asynchronous clocked serial port shared with programming port | |
| SERIAL RATE | | Maximum asynchronous baud rate = CLK/8 | | | |
| SLAVE INTERFACE | | Slave port allows the RCM4000 to be used as an intelligent peripheral device slaved to a master processor | | | |
| REAL TIME CLOCK | | Yes | | | |
| TIMERS | | Ten 8-bit timers (6 cascable from the first), one 10-bit timer with 2 match registers, and one 16-bit timer with 4 outputs and 8 set/reset registers | | | |
| WATCHDOG/SUPERVISOR | | Yes | | | |
| PULSE-WIDTH MODULATORS | | — | | 2 channels: Synchronized PWM with 10-bit counter Variable-phase synchronized PWM with 16-bit counter | |
| QUADRATURE DECODER | | — | | 2-channel quadrature decoder accepts inputs from external incremental encoder modules | |
| POWER | | 3.0– 3.6 VDC, 90 mA @ 3.3V (preliminary, pins unloaded) | | | |
| OPERATING TEMPERATURE | | 0° C to +70° C | | | |
| HUMIDITY | | 5% to 95%, non-condensing | | | |
| CONNECTORS | | Programming header | | | |
| BOARD SIZE | | 1.84" × 2.42" × 0.77" (47 mm × 61 mm × 20 mm) | | | |
| PRODUCT WARRANTY | | 1 year | | | |

| PART NUMBERS | DESCRIPTION |
|--------------|-------------|
| 20-101-1094 | RCM4000 |
| 20-101-1112 | RCM4010 |

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