RCM3000 RabbitCore™

MODELS | RCM3000 | RCM3010 |

Microprocessor Core Module

Key Features

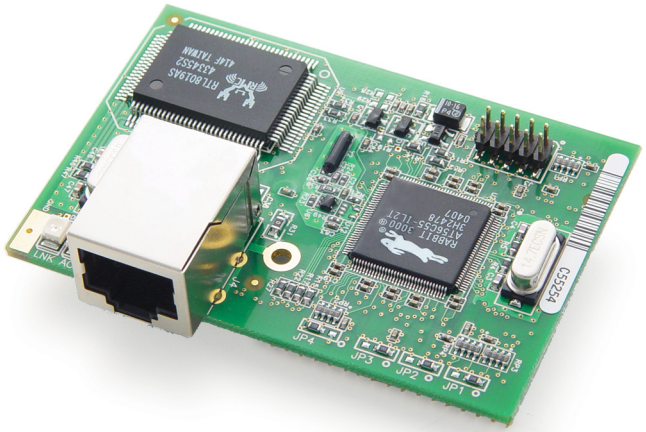
- Powerful Rabbit® 3000 microprocessor @ 29.4 MHz
- 3.3 V operation
- Low-EMI (typically <10 dB µV/m @ 3 m)
- On-board Ethernet for simplified connectivity
- Up to 512K Flash/512K SRAM
- 52 digital I/O
- 6 serial ports (IrDA, SDLC/HDLC, Async, SPI)
- Low power "sleepy" modes (< 2mA)

Design Advantages:

- Small form factor saves board space
- Low power modes for remote devices
- Royalty free TCP/IP stack in source code
- Abundant samples and libraries
- Security software add-on modules available

Applications

- Serial to Ethernet conversion
- Device webserver applications
- Ethernet connectivity with I/O and intelligence
- Device monitoring and datalogging



RCM3000 – Versatile Ethernet Core Module

The RCM3000 RabbitCore is a powerful and feature-packed 10Base-T Ethernet microprocessor core module. Powered by the Rabbit 3000—the "Low EMI microprocessor"—the RCM3000 is the ideal option for designers who want to rapidly develop and implement embedded systems with fully integrated Ethernet connectivity.

The RCM3000 is pin compatible with the non-Ethernet RCM3100, facilitating cost-effective implementation of both Ethernet and non-Ethernet systems. The RCM3000 features a battery-backable real-time clock, glueless memory and low power "sleepy" modes requiring less than 2mA of current. A fully enabled slave port permits easy master-slave interfacing with another processor-based system. The Rabbit 3000 processor's compact, C-friendly instruction set and high clock speeds produce exceptionally fast results for math, logic, and I/O. The integrated Ethernet port allows instant local or worldwide connectivity.

Available in two models, the RCM3000 is equipped with 10Base-T Ethernet, up to 512K each of Flash and SRAM, low-EMI features, quadrature encoder inputs, PWM outputs, and pulse capture and measurement capabilities. Two 34-pin connection headers provide 52 digital I/O shared with the 6 serial ports and alternate I/O that can be configured for 8 data lines and 6 address lines (shared with parallel I/O).

The RCM3000 measures only 2.73" × 1.85" (69 × 47 mm), operates at 3.3 V (with 5 V-tolerant I/O).

Developing with RabbitCores

The RabbitCore family of microprocessor core modules is designed to facilitate rapid development of embedded systems. RabbitCores mounts on a user-designed motherboard and acts as the controlling microprocessor for the user's system. Small in size, packed with powerful features, and armed with the Dynamic C software with sample libaries, these core modules give designers a complete package for control and communication.

Dynamic C Add-on Modules

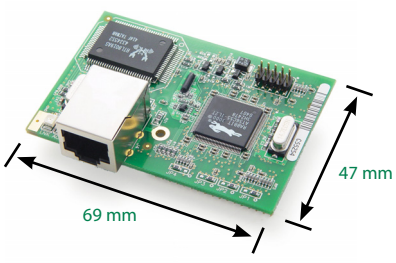
Dynamic C Add-on modules provide added functionality and customization to your embedded applications. Software is available via download or CD-ROM.

RabbitWeb
Easily create web interfaces to monitor and control embedded applications

Advanced Encryption Standard
128-bit encryption for transfer of sensitive data

Point-to-Point Protocol
TCP/IP functionality for serial and PPPoE connections

Library Encryption Executable
Program to encrypt Dynamic C library source files



RCM3000 RabbitCore Specifications		
Feature	**RCM3000**	**RCM3010**
Microprocessor	Rabbit 3000 at 29.4 MHz	
EMI Reduction	Spectrum spreader for reduced EMI (radiated emissions)	
Ethernet Port	10Base-T interface, RJ-45, 2 LEDs	
Flash Memory	512K (2 × 256K)	256K
SRAM	512K	128K
Backup Battery	Connection for user-supplied backup battery (to support RTC and SRAM)	
General-Purpose I/O	52 parallel digital I/0 lines: • 44 configurable I/O • 4 fixed inputs • 4 fixed outputs	
Additional Digital Inputs	2 startup mode, reset in	
Additional Digital Outputs	Status, reset out	
Auxiliary I/O Bus	8 data lines and 6 address lines (shared with I/O) plus I/O read/write	
Serial Ports	6 shared high-speed, CMOS-compatible ports: • 6 configurable as asynchronous (with IrDA), 4 as clocked serial (SPI), and 2 as SDLC/HDLC (with IrDA) • 1 asynchronous serial port dedicated for programming • support for MIR/SIR IrDA transceiver	
Serial Rate	Max. asynchronous baud rate = CLK/8	
Slave Interface	A slave port allows the RCM3100 to be used as a master or as an intelligent peripheral device with Rabbit-based or any other type of processor	
Real-Time Clock	Yes	
Timers	Ten 8-bit timers (6 cascadable from the first), one 10-bit timer with 2 match registers	
Watchdog/Supervisor	Yes	
Pulse-Width Modulators	10-bit free-running counter and four pulse-width registers	
Input Capture	2-channel input capture can be used to time input signals from various port pins	
Quadrature Decoder	2-channel quadrature decoder accepts inputs from external incremental encoder modules	
Power	3.15 V to 3.45 V DC 150 mA @ 3.3 V	
Operating Temperature	–40°C to +70°C	
Humidity	5% to 95%, non-condensing	
Connectors (for connection to headers J4 and J5)	Two 2 × 17, 2 mm pitch	
Board Size	1.850" × 2.725" × 0.86" (47 mm × 69 mm × 22 mm)	
Pricing		
Pricing (qty. 1/100/1000) Part Number	$79 / 64 / 57 20-101-0507	$59 / 49 / 43 20-101-0508
Development Kit Part Number	$299 U.S. 101-0523 Int'l 101-0524	

RCM3000 Development Kit comes complete with:

- RCM3010 RabbitCore Module
- Prototyping Board
- Serial cable for programming and debugging
- Dynamic C® integrated development software
- Getting Started Instructions
- Complete product documentation on CD including the Rabbit 3000 reference manual
- AC adapter (U.S. only)
- Rabbit 3000 pin specifications poster

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