RCM3600 RabbitCore™

MODELS | RCM3600 | RCM3610 |

Microprocessor Core Module

Key Features

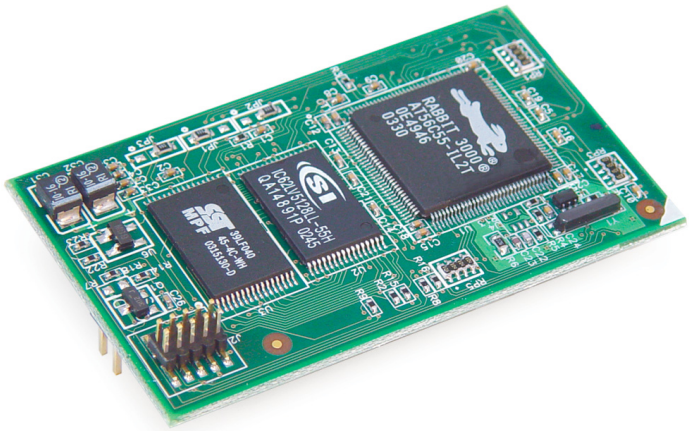
- Powerful Rabbit® 3000 microprocessor at 22.1 MHz
- Compact footprint: 2.11" x 1.23" x 0.62" (54 x 31 x 16mm)
- Up to 512K Flash / 512K SRAM
- 33 parallel digital I/O with configurable options
- 4 serial ports (IrDA, HDLC, asynch, SPI)
- 5 V DC input, 3.3 V DC interface

Design Advantages:

- Low-cost embedded microprocessor module
- Ready-made platform for fast time-to-market, up to 3 months design integration time savings.
- Compact size
- Dynamic C® development environment for real-time development and debugging
- Exceptionally fast performance for math, logic, I/O

Applications

- Device intelligence
- Embedded control
- Sensor reading
- Serial device coordinator
- Handheld and remote devices
- GPS/AVL applications



RCM3600 – Compact yet powerful embedded intelligence

The RCM3600 RabbitCore is a low-cost Rabbit 3000 microprocessor based core module designed for a wide variety of applications. The RCM3600 features 512K Flash / 512K SRAM or 256K Flash / 256K SRAM, 4 serial ports, and an extremely small footprint (2.11" × 1.23" / 54 × 31 mm). Extensive demo programs and software application templates make it easy to get the RCM3600 up and running in no time.

The RCM3600 RabbitCore mounts directly on a user-designed motherboard with a single 0.1" (2.54 mm) 2x20 dual-row IDC header and can interface with all types of CMOS-compatible digital devices. 33 digital I/O (shared with serial ports), power, and other signals are routed directly to the motherboard. Built-in low-EMI features, including a clock spectrum spreader, practically eliminate EMI problems, helping OEMs pass European CE and other regulatory RF emissions tests.

The RCM3600 is equipped with +5 V DC tolerant I/O, quadrature encoder inputs, PWM outputs, and pulse capture and measurement capabilities. The RCM3600 also features a battery-backable real-time clock, glueless memory and I/O interfacing, and low-power "sleepy" modes. An alternate I/O bus can be configured for 8 data lines and 5 address lines (shared with parallel I/O).

Programmed with Rabbit Semiconductor's Dynamic C®, the RCM3600 executes math, logic, and I/O quickly. The Rabbit 3000 microprocessor, RCM3600, and Dynamic C were designed in a complementary fashion for maximum performance and ease of use in embedded systems. Rabbit Semiconductor's industry-proven Dynamic C development system is a C-language environment that includes an editor, compiler, and in-circuit debugger. User programs can be compiled executed and debugged using Dynamic C and a programming cable—no in-circuit emulator is required. An extensive library of drivers and sample programs is provided.

Dynamic C Add-on Modules

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

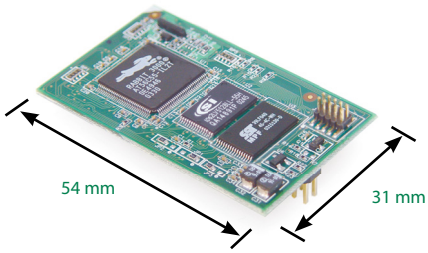
Advanced Encryption Standard
128-bit encryption for transfer of sensitive data

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

Library Encryption Executable
Program to encrypt Dynamic C library source files

µC/OS-II Real-Time Kernel
Real-time preemptive, prioritized operating system

Rabbit Field Utility (RFU)
Source code for the Rabbit Field Utility



RCM3600 RabbitCore Specifications		
Features	RCM3600	RCM3610
Microprocessor	Low-EMI Rabbit® 3000 at 22.1 MHz	
Flash Memory	512K	256K
SRAM	512K	128K
Backup Battery	Connection for user-supplied backup battery (to support RTC and SRAM)	
General-Purpose I/O	33 parallel digital I/0 lines: • 31 configurable I/O • 2 fixed outputs	
Additional I/O	Reset	
Auxiliary I/O Bus	Can be configured for 8 data lines and 5 address lines (shared with parallel I/O lines), plus I/O read/write	
Serial Ports	Four 3.3 V CMOS-compatible ports configurable as: • 4 asynchronous serial ports (with IrDA) or • 3 clocked serial ports (SPI) plus 1 HDLC (with IrDA) or • 1 clocked serial port (SPI) plus 2 HDLC serial ports (with IrDA)	
Serial Rate	Maximum asynchronous baud rate = CLK/8	
Slave Interface	A slave port allows the RCM3600 to be used as an intelligent peripheral device slaved to a master processor, which may either be another Rabbit 3000 or any other type of processor	
Real-Time Clock	Yes	
Timers	Ten 8-bit timers (6 cascadable), one 10-bit timer with 2 match registers	
Watchdog/Supervisor	Yes	
Pulse-Width Modulators	4 PWM output channels with 10-bit free-running counter and priority interrupts	
Input Capture/ Quadrature Decoder	2-channel input capture can be used to time input signals from various port pins • 1 quadrature decoder unit accepts inputs from external incremental encoder modules or • 1 quadrature decoder unit shared with 2 PWM channels	
Power	5 V ±0.25 V DC 60 mA @ 22.1 MHz, 5 V; 38 mA @ 11.06 MHz, 5 V	
Operating Temperature	–40°C to +85°C	
Humidity	5% to 95%, non-condensing	
Connectors	One 2 x 20, 0.1" pitch	
Board Size	1.23" × 2.11" × 0.62" (31 mm × 54 mm × 16 mm)	
Pricing		
Pricing (qty 1/100) Part Number	$49 / 39 20-101-0672	$45 / 37 20-101-0673
Development Kit Part Number	$239 U.S 101-0678 Int'l 101-0679	

RCM3600 Development Kit comes complete with:

- RCM3600 RabbitCore (512K Flash/512K SRAM)
- Development board with prototyping area
- AC adapter (U.S./Canada only)
- Dynamic C development system (not a trial version) and complete documentation
- Serial cable for programming and debugging
- Getting Started manual

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