Digi - 101-0562 Datasheet

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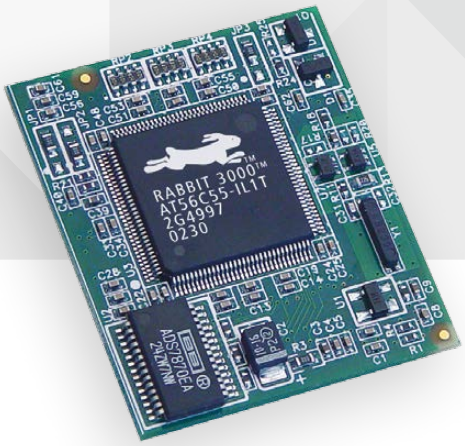
Understanding Embedded - Microcontroller, Microprocessor, FPGA Modules

Embedded - Microcontroller, Microprocessor, and FPGA Modules are fundamental components in modern electronic systems, offering a wide range of functionalities and capabilities. Microcontrollers are compact integrated circuits designed to execute specific control tasks within an embedded system. They typically include a processor, memory, and input/output peripherals on a single chip. Microprocessors, on the other hand, are more powerful processing units used in complex computing tasks, often requiring external memory and peripherals. FPGAs (Field Programmable Gate Arrays) are highly flexible devices that can be configured by the user to perform specific logic functions, making them invaluable in applications requiring customization and adaptability.

Applications of Embedded - Microcontroller,

Details	
Product Status	Obsolete
Module/Board Type	MPU Core
Core Processor	Rabbit 3000
Co-Processor	-
Speed	29.4MHz
Flash Size	256KB
RAM Size	256KB
Connector Type	2 IDC Headers 2x17
Size / Dimension	1.16" x 1.38" (29.5mm x 34.9mm)
Operating Temperature	-40°C ~ 85°C
Purchase URL	https://www.e-xfl.com/product-detail/digi-international/101-0562

MICROPROCESSOR
CORE MODULE



RABBITCORE® RCM3400 SERIES

The compact, analog-enabled RabbitCore is designed for embedded applications that require analog functionality

The RabbitCore RCM3400 series, featuring the Rabbit® 3000 microprocessor, is designed for embedded control and monitoring applications requiring analog functionality. Its small size and ease of use when paired with Dynamic C® allow engineers to develop a control and monitoring solution for many of today's embedded applications.

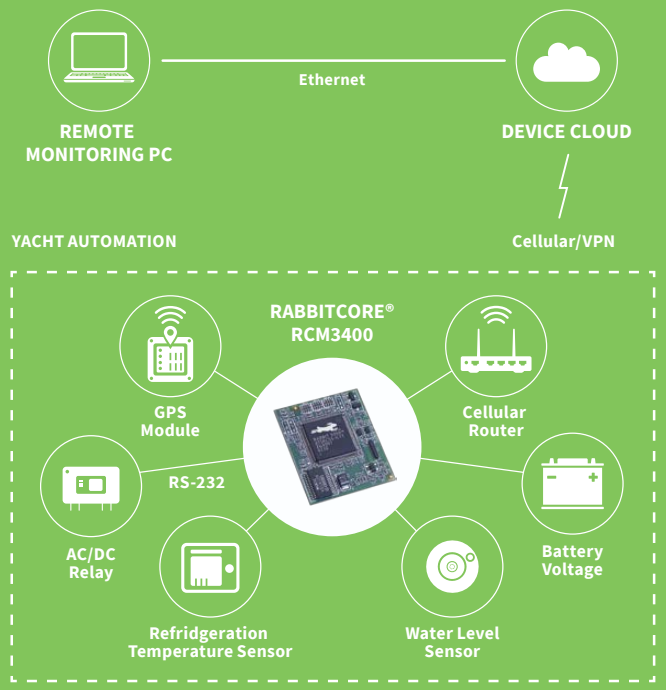
The Ethernet-ready RCM3400 series comes pre-assigned with a MAC ID, along with a development board 10Base-T reference design. Built-in low EMI features, including a clock spectrum spreader, practically eliminate EMI problems, helping to pass CE and RF emissions tests.

Rabbit hardware and Dynamic C are designed in a complementary fashion for maximum performance and ease of use in embedded systems. The additional software components in Dynamic C allow you to add functionality for embedded application customization.

BENEFITS

- Rabbit 3000 microprocessor at 30 MHz
- Up to 512K Flash/512K SRAM
- 8 channel 12-bit A/D with programmable gain
- 47 digital I/O and 5 serial ports (IrDA, HDLC, asynch, SPI)
- MAC ID installed
- Compact size simplifies integration
- Ready-made platform for fast time-to-market, up to 3 months of design integration time savings
- Low-cost embedded microprocessor module

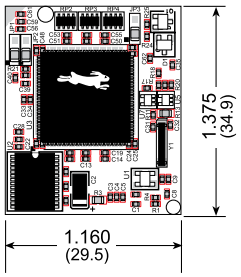
APPLICATION EXAMPLE

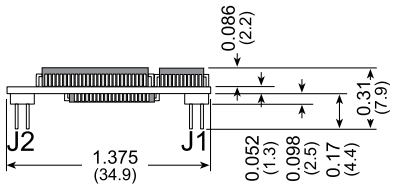


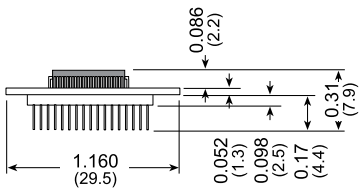
RELATED PRODUCTS

RabbitCore® RCM3000 Series | RabbitCore® RCM3100 Series | RabbitCore® RCM4300 Series | RabbitCore® RCM3600 Series | Dynamic C®

SPECIFICATIONS	RCM3400	RCM3410
FEATURE		
MICROPROCESSOR	Rabbit® 3000 at 30 MHz	
FLASH MEMORY	512K	256K
SRAM	512K	256K
BACKUP BATTERY	Connection for user-supplied backup battery (to support RTC and SRAM)	
ANALOG INPUTS - A/D CONVERTER RESOLUTION - A/D CONVERSION TIME (INCLUDING 120 MS RAW COUNT AND DYNAMIC C)	8 channels single-ended or 4 channels differential Programmable gain 1, 2, 4, 5, 8, 10, 16, and 20 V/V 12 bits (11 bits single-ended) 180 µs	
GENERAL-PURPOSE I/O	47 parallel digital I/0 lines: • 41 configurable I/O • 3 fixed inputs • 3 fixed outputs	
ADDITIONAL INPUTS	Startup mode (2), reset in, CONVERT	
ADDITIONAL OUTPUTS	Status, reset out, VREF	
AUXILIARY I/O BUS	Can be configured for 8 data lines and 6 address lines (shared with parallel I/O lines), plus I/O read/write	
SERIAL PORTS	5 shared high-speed, CMOS-compatible ports: • All 5 configurable as asynchronous, 3 as clocked serial (SPI), and 2 as SDLC/HDLC • 1 asynchronous serial port dedicated for programming • Support for MIR/SIR IrDA transceiver	
SERIAL RATE	Maximum asynchronous baud rate = CLK/8	
SLAVE INTERFACE	A slave port allows the RCM3400 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	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	3.0–3.45 VDC @ 29.4 MHz, 2.8–3.45VDC @ 14.7 MHz 97 mA @ 3.3V, 29.4 MHz; 57 mA @ 3.0V, 14.7 MHz	
OPERATING TEMPERATURE	-40° C to +85° C	
HUMIDITY	5% to 95%, non-condensing	
CONNECTORS	Two 2 × 17, 1.27 mm pitch	
BOARD SIZE	1.160" × 1.375" × 0.31" (29.5 mm ×34.9 mm × 7.9 mm)	







PART NUMBERS	DESCRIPTION
20-101-0561	RCM3400
20-101-0562	RCM3410

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