

MICROPROCESSOR
CORE MODULE

DIGI RABBITCORE RCM4100 SERIES

A compact core module ideal for device control for embedded applications that require I/O control, data handling and peripheral connectivity

The RabbitCore RCM4100 series is the entry platform for the Rabbit® 4000 family of core modules. The RCM4100 is designed to mount directly to a user-supplied motherboard and acts as the microprocessor of the embedded system. The microprocessor features 40 GPIO lines shared with up to six CMOS-compatible serial ports, and four levels of alternate pin functions that include variable phase PWM, quadrature decoder, and input capture.

The RCM4100 series, with its robust feature set, ample memory, low-power modes and analog channels, is available for multiple peripheral connectivity options such as a cellular modem or ZigBee device.

Evaluation of the RCM4100 is easy with the RabbitCore RCM4100 development kit, which provides all the necessary hardware and software to quickly get started.

BENEFITS

- Rabbit 4000 running up to 59 MHz
- 512K Flash, 256K / 512K Data SRAM
- Up to 40 GPIO, up to 6 CMOS-compatible serial ports
- Auxiliary I/O feature for reducing processor bus loading
- 8 channels 12-bit A/D converter (RCM4100)
- Ideal for device intelligence and control
- Well suited for easy integration with peripheral technologies such as GPS, cellular modems, RFID readers, sensors, etc.

RELATED PRODUCTS



RabbitCore®
RCM3100
Series



RabbitCore®
RCM4000
Series



RabbitCore®
RCM4300
Series

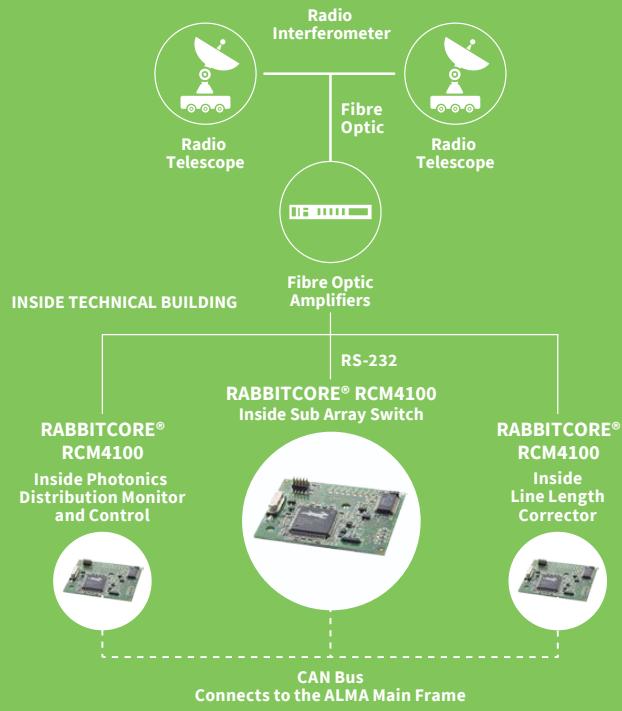


Rabbit MiniCore®
RCM6700
Series



Dynamic C®

APPLICATION EXAMPLE



SPECIFICATIONS		RCM4100	RCM4110	RCM4120				
FEATURES								
MICROPROCESSOR	Rabbit® 4000 at 59 MHz	Rabbit® 4000 at 29 MHz	Rabbit® 4000 at 59 MHz					
FLASH MEMORY	512K							
DATA SRAM	512K	256K	512K					
FAST PROGRAM-EXECUTION SRAM	512K	None	512K					
BACKUP BATTERY	Connection for user-supplied backup battery (to support RTC and data SRAM)							
GENERAL PURPOSE I/O	29 parallel digital I/O lines: Configurable with 4 layers of alternate functions	40 parallel digital I/O lines: Configurable with 4 layers of alternate functions						
ADDITIONAL INPUTS	Startup mode (2), reset in, CONVERT	Startup mode (2), 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	None	None					
- A/D CONVERTER RESOLUTION	12 bits (11 bits single-ended)							
- A/D CONVERSION TIME (INCLUDING 120 MS RAW COUNT AND DYNAMIC C)	180 µs							
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	6 high-speed, CMOS-compatible ports: <ul style="list-style-type: none"> All 6 configurable as asynchronous (with IrDA), 4 as clocked serial (SPI), and 2 as SDLC/HDLC 1 asynchronous clocked serial port shared with programming port 1 clocked serial port shared with A/D converter 	6 high-speed, CMOS-compatible ports: <ul style="list-style-type: none"> All 6 configurable as asynchronous (with IrDA), 4 as clocked serial (SPI), and 2 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 RCM4100 to be used as an intelligent peripheral device slaved to a master processor							
REAL TIME CLOCK	Yes							
TIMERS	Ten 8-bit timers (6 cascadable 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	4 channels synchronized PWM with 10-bit counter; 4 channels variable-phase or synchronized PWM with 16-bit counter							
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 (PINS UNLOADED)	3.0–3.6 VDC							
OPERATING TEMPERATURE	125 mA @ 3.3V	65 mA @ 3.3V	125 mA @ 3.3V	-40° C to +85° C				
HUMIDITY	5% to 95%, non-condensing							
CONNECTORS	One 2 × 25, 1.27 mm pitch IDC signal header; One 2 × 5, 1.27 mm pitch IDC programming header							
BOARD SIZE	1.41" × 1.88" × 0.49" (36 mm × 48 mm × 12 mm)							
PRODUCT WARRANTY	3 years							

PART NUMBERS		DESCRIPTION
20-101-1093	RCM4110	
20-101-1154	RCM4120	

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