

Rabbit RIO®

Intelligent I/O Expansion Chip

The Rabbit RIO chip is an intelligent I/O processor ideally equipped for industrial automation and control.



Overview

The Rabbit RIO chip offers both I/O expansion and peripheral features that easily integrate into new or existing designs. It interfaces to any microcontroller with an available SPI or parallel port. Multiple peripheral features offer a distinct advantage for motor control applications. The Rabbit RIO simply takes the load off the processor, making it ideal for applications with demanding networking requirements.

The Rabbit RIO is also ideal for machine control applications. I/Os are 5V tolerant, which also includes pin-pair protection for applications such as H-bridge drivers. Since multiple status bits are set from a single match register, pins are easily configurable for higher drive current operations. The same signal could be output on multiple pins for applications that require a higher current. It also provides push pull protection for sink and source drivers.

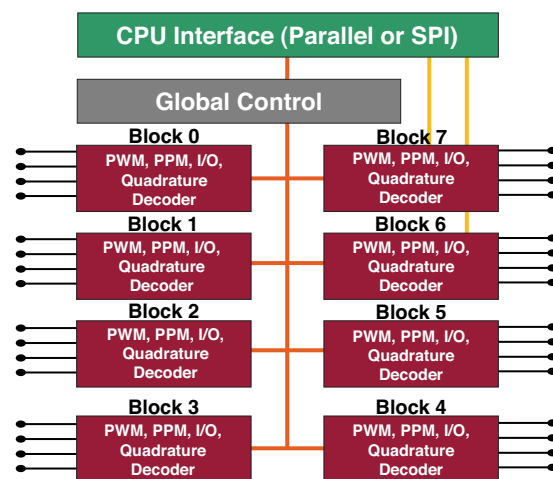
Application Kit

This low-cost application kit includes everything you need to begin development

\$299



Block Diagram



Ideal Applications : Industrial control and automation, instrumentation, motion control

Features/Benefits

- Easily interface to any CPU via an available SPI or parallel port
- Instantly add up to 32 digital I/O lines
- 8 independent functional channels with 4 ports each
- Functional channels configurable as:
Bi-directional I/O, PWM or PPM outputs, TRIAC signal generators, input capture, counter, Quadrature decode peripheral
- Add I/O and peripheral features to any new or existing design
- Use multiple Rabbit RIO devices for large I/O requirements



Specifications		Rabbit RIO® Expansion Chip	
Features			
Clock Speed		Up to 40 MHz	
Operating Voltage		3.0-3.6VDC	
Maximum I/O Input Voltage		5.0VDC (3.3VDC typ.)	
Core Current		22 MHz @ 31.3 mA, 25° C	
I/O Ring		22 MHz @ 1.1 mA, 25° C	
Output Drive		8 mA	
CPU Interfaces		SPI or 8-bit parallel	
Fixed Digital Inputs		4	
Configurable I/O		8 independent channels, each with 4 ports: <ul style="list-style-type: none">• Up to 32 bi-directional I/O lines• Up to 32 PWM outputs• Up to 16 PPM outputs• Up to 32 TRIAC signal generators• Up to 8 input capture peripherals• Up to 8 counters• Up to 8 quadrature decode peripherals	
Package Type		64-pin TQFP 10 mm x 10 mm x 1.4 mm	
Pricing			
Price (qty. 1/1K/10K) Part Number		\$5.00 / \$3.75 / \$3.00 20-668-0030	
Price (2-Pack) Part Number		\$10 20-101-1187	

Mouser Electronics

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