Rabbit® SBC LP3500 Series

Single-Board Computer

Low-power single-board computer ideal for remote telemetry applications requiring I/O control and data logging capabilities.

Overview

The LP3500 series features built-in analog and digital I/O which also includes 1 high current relay output capable of driving up to 1A. The board consumes less than 20 mA when fully operational and less than 100 uA when powered down. When powered by an external battery or power supply, the LP3500 series can be awakened from power save mode by an internal timer, an RS-232 signal or via polling on an external input. The LP3500 can be switched from power save mode to full operation via software control. In addition to the low-power features, the board can also function as a data logger since the battery backup feature provides worry free data storage.

Its 6 serial ports enable the LP3500 series to easily connect multiple devices such as Digi's XStream® 2.4 GHz RF modem, which can send and receive data up to 20 miles. Dynamic C®, an easy-to-use C environment, includes a host of sample programs and libraries that help to lower development costs and reduce time to market from months to weeks.

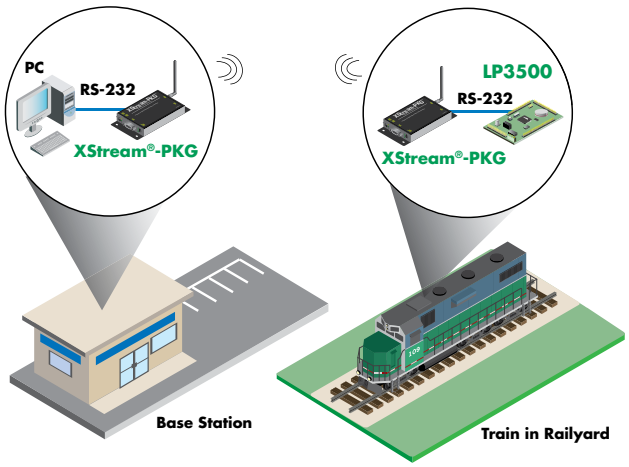
Related Products

Digi Connect® WAN 3G

RF Modems

Keypad

Application Highlight



Features/Benefits

- Low power consumption less than 100 uA in power save mode
- 8 A/D inputs with 12 bit resolution
- Digital outputs can sink up to 200 mA
- 6 serial ports for multiple device connectivity
- 16 protected digital inputs
- 1 relay output up to 1A
- Backup battery for data protection
- Data logger

Digi®

www.digi.com

Specifications		LP3500	LP3510
Feature			
Microprocessor		Rabbit® 3000 up to 7.4 MHz	
EMI Reduction		Spectrum spreader for ultra-low EMI (radiated emissions)	
Flash Memory		512K (2 × 256K)	256K
SRAM		512K	128K
Backup Battery		Socketed 3V lithium coin Panasonic® CR2330, 265 mA·h, supports RTC and SRAM, connection for user-supplied external battery	
Keypad/Display		Supports optional LCD/keypad module with 7 keys and 122 × 32 graphic display	
Digital Inputs		16: fully protected 0–36VDC, can handle short spikes ±40V	
Digital Outputs		10: 8 sink up to 200 mA each, 36VDC max.; 2 source up to 200 mA each, 36VDC max.	
Relay Output		1 C-form, 1A, 30VDC	None
Analog Inputs	**General**	• Eight single-ended or four differential inputs • 1MΩ input impedance • Sampling rate up to 200 samples/s • Eight software-controlled ranges from 0–1V to 0–20VDC	None
	Single-Ended	• Resolution: 11 bits (8-bit accuracy) • 4 channels can be set individually for 4-20 mA • 1 channel has software-selectable voltage-monitoring option	None
	Differential	Resolution: 12 bits (9-bit accuracy)	None
Analog Outputs		3 unfiltered pulse-width modulated, 1 kΩ output impedance	None
Serial Ports		6 shared high-speed, CMOS-compatible ports: • 1 RS-485 • 3 RS-232 (one 5-wire plus one 3-wire or three 3-wire) • 1 logic-level serial interface for optional add-ons • 1 asynchronous clocked serial port dedicated for programming	
Serial Rate		Max. asynchronous baud rate = CLK/8	
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 4 pulse-width registers	
Power		3V to 30VDC 20 mA (max.) @ 7.4 MHz, 100 µA max. @ 2 kHz (with linear regulator turned off)	
Operating Temperature		–40° C to +70° C	
Humidity		5% to 95%, non-condensing	
Connectors		0.1" headers • I/O and misc. signals: one 1 × 25, two 1 × 17 headers • Display: one 2 × 13 header 2 mm headers • Programming port: one 2 × 5 header • Serial interface: one 2 × 4 socket Screw-terminal headers • Relay: one 3- position screw-terminal header	
Board Size		2.60" × 3.65" × 0.45" (66 mm × 93 mm × 11 mm)	
Pricing			
Price (qty 1) and Part Number		$199; 20-101-0525	$149; 20-101-0526
Development Kit and Part Number		$399; 101-0530/101-0525	$349; 101-0530/101-0526

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