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Exar Expands Multiprotocol Serial Transceiver Portfolio

Internally Switched Cable Termination on SP338 Enables RS-232 and RS-485/422 Protocols to Share Same Communication Lines

FREMONT, Calif., Jan. 10, 2012 /PRNewswire/ -- Exar Corporation (Nasdaq: EXAR) added another device to its versatile single-chip RS-232/RS-485/RS-422 serial transceiver product family today – the SP338. This device complements Exar's existing serial portfolio and further extends Exar's technology leadership in the single-chip multiprotocol market. The SP338 is ideal for industrial or embedded PCs with dual protocol serial ports. The RS-232 mode provides three drivers and five receivers to support all eight signals required for the DB9 serial port (3TX/5RX). The RS-485/422 modes include half, full, and mixed duplex configurations with up to two drivers and four receivers (2TX/4RX).

"The new SP338 and the recently announced SP339 solve the most difficult design issue of sharing a single connector between multiple serial protocols - enabling and disabling the termination resistor when switching protocols," said Jack Roan, technical marketing manager, Interface Product Line. "These devices provide multiple options for our customers to minimize the number of external connectors they use on their end-products, lowering part count and reducing overall system cost."

Product Features

The SP338 integrates the resistors and control switches for multiple RS-485/422 channels, allowing the system processor to dynamically enable or disable the termination with a single pin. The RS-485/422 modes include Exar's enhanced receiver failsafe on open, shorted, and terminated but idle inputs, eliminating the need for external resistor biasing networks and switching components.

When sharing a single connector between RS-232 and RS-485/422 protocols, the RS-485 termination and biasing resistors must be disconnected for proper RS-232 communication. Large and expensive relays are required to switch these resistors in and out of circuit due to the wide range of common mode voltage possible on a RS-485 network (anywhere from -7V to +12V). Most designers find it easier to have a separate external connector for each protocol, or to manually switch the resistor in and out, despite the additional size and cost of those approaches.

In addition to the on-chip switched cable terminations, the SP338 features eight configuration modes including diagnostic loopback, RS-232 (3TX/5RX), several half duplex RS-485 and full duplex RS-485/422 modes, as well as a mixed duplex mode with two drivers and four receivers (2TX/4RX). The maximum data rates of 20Mbps and 1Mbps

(RS-485/422 and RS-232, respectively) can be slew limited to 256kbps in any mode by toggling a single control pin. The on-board charge pump generates the RS-232 bipolar voltage levels from a single 3.3V or 5V supply with only four external capacitors, and does not require any inductors or magnetic components.

All bus pins are protected against severe ESD events up to +/-15kV HBM (Human Body Model) and +/-8kV IEC 61000-4-2 Contact Discharge.

Interface Products

Exar has one of the broadest portfolios of high-performance interface solutions including RS-232, RS-485, and multi-protocol serial transceivers, UARTs, GPIO expanders, and integrated UART/transceiver combinations. For chip-to-chip or system-to-system connections, Exar's single and multi-channel interface ICs provides immediate competitive advantages to system architects: low power, reduction in board space requirements, increased bandwidth capacity, and enhanced product features. Interface devices are found practically everywhere including point-of-sale (POS) terminals, digital televisions, industrial automation equipment, handheld devices, and networking environments.

Prices, Packages, Availability and Additional Information

The SP338 is available now in volume quantities in a RoHS compliant 40-pin QFN package in Commercial (0 to +70ºC) and Industrial (-40 to +85ºC) operating temperature grades. Pricing starts at $5.58 per unit for 1K pieces. Additional information on this product can be found at: http://www.exar.com/interface/transceiver/multiprotocol/SP338/.

Exar's broad portfolio of transceiver solutions can be found at: http://www.exar.com/interface/transceiver/multiprotocol/.

About Exar

Exar Corporation delivers highly differentiated silicon, software and subsystem solutions for data communication, storage, consumer and industrial applications. For over 40 years, Exar's comprehensive knowledge of end-user markets along with the underlying analog, mixed signal and digital technology has enabled innovative solutions that meet the needs of the evolving connected world. Exar's product portfolio includes power management and interface components, communications products, storage optimization solutions, network security and applied service processors. Exar has locations worldwide providing real-time customer support to drive rapid product development. For more information about Exar, visit www.exar.com.

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