New LIN Bus IC Eliminates the Need for an External Voltage Regulator IC

Continuing its leadership in Local Interconnect Network (LIN) bus solutions, Microchip Technology Inc. today introduced the MCP201 device, a single-chip LIN bus interface transceiver with an integrated voltage regulator. By combining the MCP201 with virtually any of the company’s PICmicro® microcontrollers, designers can build a complete LIN bus solution.

The integrated voltage regulator eliminates the need for an additional external regulator IC, saves board space and meets the LIN bus specification of V1.2. In addition, the industry standard pin assignment of the MCP201 makes it a drop-in replacement in applications where LIN transceivers are already designed in.

The small 8-pin MCP201 device features an on-board 5 volt +/-5 percent voltage regulator with a maximum output current of 50 microamps and has the capability to provide higher current output capability with an external series pass transistor. It supports a baud rate up to 20 kb and is available in an extended temperature range (-40°C to +125°C). The device provides thermal and short circuit protection as well as protection against loss of ground and load dumps up to 40 volts. CPU, bus activity, and local wake-up features are also included.

Created as a low-cost, short distance, low-speed network to connect various automotive subsystems, the LIN protocol enhances communication among these subsystems. The protocol lowers system cost and improves reliability since only three wires (communication + power + ground) are used to connect multiple nodes rather than running multiple individual wires to every node.

Target applications for the MCP201 include automotive sub-bus systems (sensors, actuators, switches) connected to a LIN bus system. Examples include interior and exterior mirrors, HVAC blower motors, sensors and air doors, seat controls (heat, motors, switches), door controls (door locks, window lift, RKE receiver, control panels), steering wheel (control panels, heating, ignition lock), sun roof motors, compass, garage door openers, visors, light control, engine cooling fan, glow plug control, and battery sensors.

The appliance and industrial markets are also pursuing LIN bus connectivity as a low-cost solution in feature rich equipment that have multiple connected nodes. Target applications include washing machines, refrigerators, stoves and ovens, manufacturing equipment and metal working machines.

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Microchip’s PICDEM™ LIN Development Kit enables designers to develop solutions easily and efficiently using the LIN bus protocol with PICmicro microcontroller-based systems. Sample programs provided with the kit demonstrate the LIN protocol in a simple distribution network using the sample microcontrollers. Designers also have the ability to demonstrate the integration of the LIN bus protocol into a product for proof of concept. A version of the PICDEM LIN Development Kit supporting the new MCP201 device is expected to be available in January.

**PRICING**

Available in an 8-pin SOIC package, pricing in 10,000-unit quantities for the MCP201 is $1.25 each. Samples are available now and volume production is scheduled for late fourth quarter 2002.

Datasheets for the devices can be found at [www.microchip.com/analog](http://www.microchip.com/analog)

For additional information or pricing on these devices, contact any Microchip sales representative or authorized worldwide distributor or visit [www.microchip.com](http://www.microchip.com).

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