8-Bit LIN Bus Microcontroller from Micronas Drives 12V Loads Directly

Micronas launches easyLIN controller for smart sensors and smart actuator applications

Freiburg, Germany – Date, 2008 – Micronas (SWX Swiss Exchange: MASN), a leading supplier of innovative application-specific IC system solutions for automotive and consumer electronics, today announced its easyLIN line of 8-bit microcontrollers for LIN bus applications. Today's cars and trucks have multiple LIN bus modules connecting smart sensors and controlling smart actuators used in power windows, wipers, and many other functions. The HVC 22xyA and HVC 24xyA simplify the design and reduce the cost of LIN bus modules by combining all logic functions, peripheral modules, interfaces and a LIN bus interface in a single device.

"easyLIN is highly flexible," says Peter Zimmermann, Market Manager Automotive at Micronas. "Even low-end and mid-price cars have many electronic functions controlled by the LIN bus. The easyLIN architecture makes one device easily adaptable to all these applications. It can be used in virtually every application where networking capability is a must, like doors, seats, mirrors - even in power train applications. We wanted to make it easy for our customers to design cost-effective LIN bus modules, and easyLIN's high level of integration accomplishes that."

easyLIN family devices integrate 5 V and 2.5 V regulators, true EEPROM, watchdogs and power-driver electronics. The included internal voltage regulators operate directly from an automobile's 12-volt supply and withstand load dumps of up to 40 volts, a requirement in vehicle applications. easyLIN also contains a switchable 5-volt supply output, which can be used to power external subsystems.

Complementing the high-voltage-tolerant regulators, the easyLIN family can directly drive up to eight 12-volt loads, such as lamps and relays. Relay driver protection is also embedded. The on-chip drivers handle moderate loads, and can drive external power transistors for large loads. These drivers include three fast-shutdown modules for power MOSFET transistor protection that respond virtually instantly,

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without CPU involvement. Working with the on-chip pulse-width modulators (PWM), easyLIN can drive brush-type and brushless DC motors as well.

Combining all these features with a sophisticated 8051-type 8-bit CPU core and a full range of peripherals means that the easyLIN family is typically the only component needed for a LIN bus application. Cost and area are dramatically reduced with easyLIN integration – in many cases reducing the component count by 15 to 20 devices.

easyLIN is available in Flash and ROM versions, both including true EEPROM. easyLIN has a complete LIN 2.0 physical interface, a fast 10-bit queued ADC (analog to digital converter), three multi-threshold comparators, an op-amp, and multiple interrupt inputs.

easyLIN's on-chip oscillator features Micronas LEAP (Low Emission Automotive Processor) technology, which actively suppresses electromagnetic interference (EMI) using precisely-timed clock phase offsets.

Also included are two 8-bit and two 16-bit timers, an SPI interface, a 16-bit PWM and three enhanced 12-bit PWMs. In addition, the easyLIN contains its own supervisory circuit. An on-chip temperature sensor warns of an overheat condition, and a supply monitor resets the device if the power supply goes out of range, even momentarily.

All easyLIN family devices operate from -40 to +125 °C, necessary in the harsh environment of automotive electronics. The family offers a range of power-saving modes, with current consumption as low as 20uA while still preserving RAM data.

Micronas supplies a number of development tools. For hardware development, application/evaluation boards and JTAG/Trace probes are available. For software development, a full range of tools from third party vendors are offered. Micronas supplies an API (Application Programming Interface) with support for all peripherals. Fast-turn development is supported by contact-ROM technology for quick turns and a patch module for in-the-field changes of code or data in ROM.

The device is offered in a PSOIC28 package. Pricing varies with the exact model, but ranges from 1.60 to 2.20 Euro for low quantities.

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About Micronas

Micronas (SWX Swiss Exchange: MASN), a semiconductor designer and manufacturer with worldwide operations, is a leading supplier of cutting-edge IC and sensor system solutions for consumer and automotive electronics. As a market leader in innovative global TV system solutions, Micronas leverages its expertise into new markets emerging through the digitization of audio and video content. Micronas also offers a variety of microcontrollers and Hall-sensors for automotive and industrial applications, such as car dashboard, body control, as well as motor management and comfort functions.

Micronas serves all major consumer and automotive electronics customers worldwide, many of them in continuous partnerships seeking joint success. While the holding company is headquartered in Zurich (Switzerland), operational headquarters are based in Freiburg (Germany). Currently, the Micronas Group employs around 2,200 people. In 2007 it generated CHF XXX/USD XXX/EUR XXX million in sales. For more information on Micronas and its products, please visit www.micronas.com.

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