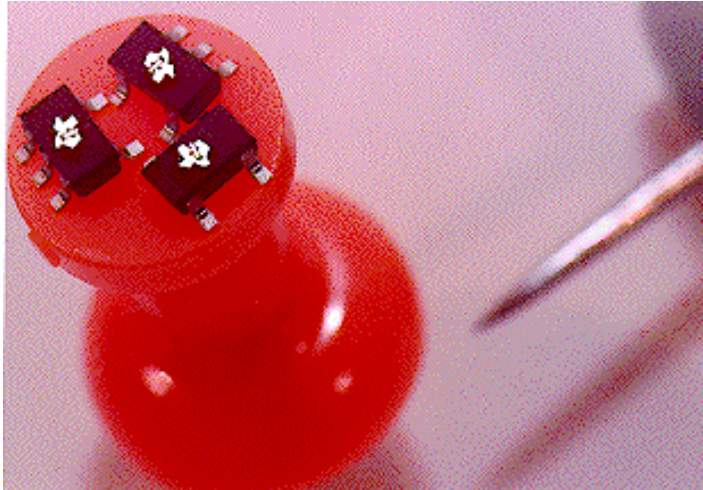


Single-gate Logic Devices Save Space in Mobile Systems and Enhance ASIC Functionality

DALLAS (June 24, 1996) - A new family of one-gate logic devices from Texas Instruments (TI) helps developers of mobile systems such as portable computers, camcorders, remote control units, cellular telephones and handheld devices reduce the size and weight of their designs. The extremely small logic devices, which have been named the MicroGate family, simplify the layout of printed circuit boards and can be used to modify the functionality of application specific integrated circuits (ASICs).



Its five-pin Small-Outline Transistor (SOT) package makes TI's MicroGate family one of the smallest integrated circuits in the industry. It features a 0.95 mm lead pitch and is only 1.45 mm high.

The first 13 devices initially released in the MicroGate family are derivatives of devices in the AHC (Advanced HCMOS) logic family, which is comprised of both CMOS- and TTL-compatible versions. AHC logic offers the same low noise of standard HCMOS devices, but AHC features three times the speed and one-half the static power consumption of HCMOS. TI's AHC MicroGate devices are compatible with either 5V or 3.3V power supplies, easing the migration from 5V to 3V supplies that many designs are now going through. Future MicroGate devices are being considered from TI's advanced 5V and 3.3V logic families.

"This type of one-gate device is very useful to designers when a product is in the development stage because they simplify the routing of circuit boards. Since they can be used to slightly modify the functionality of a system after components such as ASICs have already been designed and fabricated, TI's MicroGate devices are useful later in the design cycle as well," said Hal Speed, strategic marketing manager. "We're seeing a trend toward smaller sizes in all sorts of end-equipment products, not just portable systems. With MicroGate logic devices, design engineers can easily achieve these new and more challenging goals for size and weight."

Simplifying Board Layout

By featuring just one gate, TI's Microgate devices simplify the layout of printed circuit boards. Until now, most logic devices have had multiple gates, which necessitated the routing of multiple etches from distinct partitions on a printed circuit board through one logic device. MicroGate logic allows the designer to place a particular gate function in close proximity to related circuitry, shortening and simplifying the routes on a board.

Modifying ASIC Functionality

As systems evolve, the operational requirements of a particular ASIC used in the system may change. With a MicroGate device, a designer can alter an output of an ASIC without re-designing and manufacturing an entirely new ASIC. This can extend the useful life of an ASIC design as well as maximize the investment the system vendor has made in such a device. In addition, rather than redesigning an ASIC, MicroGate devices can be used to correct minor flaws in ASIC designs.

Pricing and Availability

The AHC MicroGate devices listed below are fabricated using TI's advanced EPIC1-S (Enhanced-Performance Implanted CMOS) process. Devices are available now from Texas Instruments and its authorized distributors. Suggested resale pricing for these devices is \$.28 in 3,000 unit quantities.

Trademark:

EPIC is a trademark of Texas Instruments, Inc.

Texas Instruments MicroGate Logic Family

Features	Benefits
Five-pin Small-Outline Transistor (SOT) Package with 0.95 mm lead pitch and 1.45 mm height	Reduced system size and weight Simplifies board layout and improves system's EMI performance
Single gate per package	Allows for functional ASIC modifications and fixes

AHC and AHCT MicroGate devices initially available:

AHC Device (CMOS)	AHCT Device (TTL)	Function
SN74AHC1G00	SN74AHCT1G00	Single two-input NAND gate
SN74AHC1G04	SN74AHCT1G04	Single inverter
SN74AHC1GU04	NA	Unbuffered single inverter
SN74AHC1G08	SN74AHCT1G08	Single 2-input AND gate
SN74AHC1G14	SN74AHCT1G14	Single Schmitt inverter
SN74AHC1G32	SN74AHCT1G32	Single 2-input OR gate
SN74AHC1G86	SN74AHCT1G86	Single XOR gate