

AHC MicroGate key features

- Operating range:
2V-5.5V Vcc
- 5-pin SOT package
- 40µA maximum static
current
- 5.2ns typical
propagation delay

Functions available:

AHC1G00	AHCT1G00
AHC1G02	AHCT1G02
AHC1G04	AHCT1G04
AHC1GU04	
AHC1G08	AHCT1G08
AHC1G14	AHCT1G14
AHC1G32	AHCT1G32
AHC1G86	AHCT1G86

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AHC MicroGate
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Advanced System Logic SPOTLIGHT

AHC MicroGate – A single gate to simplify routing and ASIC redesigns

With their extremely small size, the new MicroGate family of one-gate logic devices from Texas Instruments give designers the ability to greatly simplify design routing and maximize ASIC design investment.

The family, initially offered in 13 new devices, allow designers to place a particular gate function close to related circuitry, shortening and simplifying routes on a board. This simple implementation represents a major advancement over multiple-gate devices, which require the routing of multiple etches from distinct partitions on a printed circuit board through one logic device. The family's 5-pin Small-Outline Transistor (SOT) package also makes it one of the smallest integrated circuits in the industry.

In addition to their space-saving size, MicroGate family devices also deliver new levels of flexibility that can significantly lower design costs and reduce time to market for new products. Design for new Application Specific Integrated Circuits (ASICs), which are used to differentiate products, is time- and cost-intensive. MicroGate devices allow designers to alter the output of an ASIC without re-design and re-manufacture, effectively extending the life of the device and maximizing design investment.

Initial MicroGate device offerings are based on TI's Advanced HCMOS (AHC) logic family with both CMOS- and TTL-com-

Pin layout table

<p>AHC1G00 2 input nand gate</p> <p>$Y = \overline{A \cdot B}$</p>	<p>AHC1G08 2 input and gate</p> <p>$Y = A \cdot B$</p>
<p>AHC1G02 2 input nor gate</p> <p>$Y = \overline{A + B}$</p>	<p>AHC1G32 2 input or gate</p> <p>$Y = A + B$</p>
<p>AHC1G04 Inverter</p> <p>$Y = \overline{A}$</p>	<p>AHC1G14 Schmitt-trigger inverter</p> <p>$Y = A$</p>

patible versions. AHC devices deliver the extremely low noise of HCMOS but operate at three times the speed and half the static power consumption. The devices also ease the migration to low-voltage design with both 5V and 3.3V power supply compatibility.