NPA Number 009
June 2011

DIODES INCORPORATED

# New Product Announcement

## AHC / AHCT LOGIC

# Diodes adds 74AHCT1Gxx products expanding 74AHC1G / 74AHCT offering

## Family Descriptions

The 74AHC1Gxx is the Advanced High Speed CMOS series of single gate logic devices operate from 2.0 to 5.5V.

74AHCT1Gxx is the TTL compatible family designed to operates over a supply voltage range of 4.5 V to 5.5V and is interchangeable with 74LS bipolar types.

Nine popular functions in two package variants are now available in the AHC/AHCT single gate families.

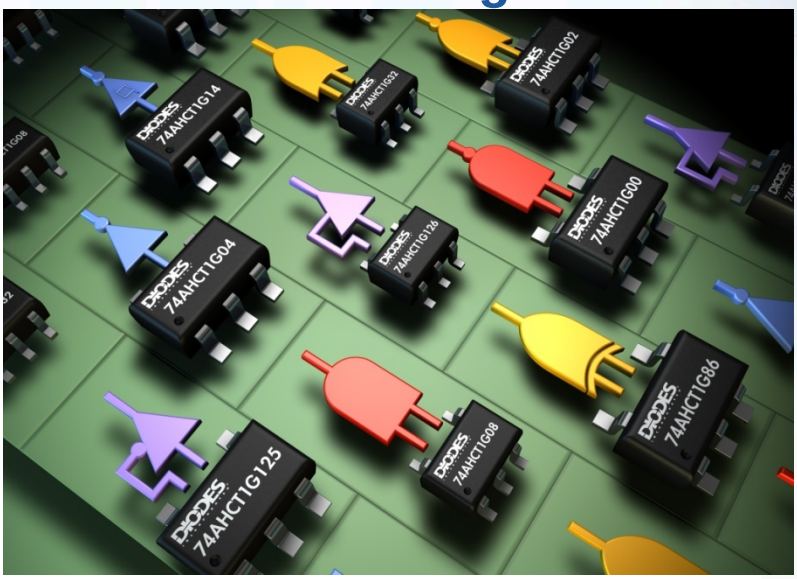
## Functions in both families

00 2 input NAND gate
02 2 input OR gate
04 Single Inverter
08 2 input AND gate
14 Schmitt Trigger Inverter
32 2 input OR gate
86 2 input XOR gate
125 3-State Buffer OE Low
126 3-State Buffer OE High

U04 --- 74AHC1G only

## Two Package options

- SOT25
- SOT 353




## The Diodes advantage

- **AHC / AHCT direct replacements**
  The parts are direct replacements for devices offered by other vendors..
- **AHC / AHCT Lower Power Consumption**
  Theses families have drive current optimized at a lower +/- 8 mA which is the lower power alternative for CMOS applications operating between 3.0 and 5.5 volts.
- **AHCT**
  A small amount of hysteresis has been included in this family to offer better noise immunity than standard input devices.
- **Single Gate Logic Choices**
  Diodes is developing a wide array of products that are now available in LVC, LVCE, AHC and AHCT families giving the product designer confidence that a new reliable source of logic products are available at very competitive prices.

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# AHC/AHCT LOGIC

## Diodes Single Gate AHC/AHCT Logic Cross Reference

| Diodes Device | Package | Description | Toshiba | TI | NXP | ON | FAIRCHILD |
|---|---|---|---|---|---|---|---|
| 74AHC1G00W5-7 | SOT-25 | NAND Gate | TC7SH00F | SN74AHC1G00DBV | 74AHC1G00GV | MC74VHC1G00DT | NC7S00M5* |
| 74AHC1G00SE-7 | SOT-353 | NAND Gate | TC7SH00FU | SN74AHC1G00DCK | 74AHC1G00GW | MC74VHC1G00DF | NC7S00P5* |
| 74AHC1G02W5-7 | SOT-25 | NOR Gate | TC7SH02F | SN74AHC1G02DBV | 74AHC1G02GV | MC74VHC1G02DT | NC7S02M5* |
| 74AHC1G02SE-7 | SOT-353 | NOR Gate | TC7SH02FU | SN74AHC1G02DCK | 74AHC1G02GW | MC74VHC1G02DF | NC7S02P5* |
| 74AHC1G04W5-7 | SOT-25 | Single Inverter | TC7SH04F | SN74AHC1G04DBV | 74AHC1G04GV | MC74VHC1G04DT | NC7S04M5* |
| 74AHC1G04SE-7 | SOT-353 | Single Inverter | TC7SH04FU | SN74AHC1G04DCK | 74AHC1G04GW | MC74VHC1G04DF | NC7S04P5* |
| 74AHC1G08W5-7 | SOT-25 | AND Gate | TC7SH08F | SN74AHC1G08DBV | 74AHC1G08GV | MC74VHC1G08DT | NC7S08M5* |
| 74AHC1G08SE-7 | SOT-353 | AND Gate | TC7SH08FU | SN74AHC1G08DCK | 74AHC1G08GW | MC74VHC1G08DF | NC7S08P5* |
| 74AHC1G14W5-7 | SOT-25 | Schmitt-Trigger Inverter | TC7SH14F | SN74AHC1G14DBV | 74AHC1G14GV | MC74VHC1G14DT | NC7S14M5* |
| 74AHC1G14SE-7 | SOT-353 | Schmitt-Trigger Inverter | TC7SH14FU | SN74AHC1G14DCK | 74AHC1G14GW | MC74VHC1G14DF | NC7S14P5* |
| 74AHC1G32W5-7 | SOT-25 | OR Gate | TC7SH32F | SN74AHC1G32DBV | 74AHC1G32GV | MC74VHC1G32DT | NC7S32M5* |
| 74AHC1G32SE-7 | SOT-353 | OR Gate | TC7SH32FU | SN74AHC1G32DCK | 74AHC1G32GW | MC74VHC1G32DF | NC7S32P5* |
| 74AHC1G86W5-7 | SOT-25 | XOR Gate | TC7SH86F | SN74AHC1G86DBV | 74AHC1G86GV | MC74VHC1G86DT | NC7S86M5* |
| 74AHC1G86SE-7 | SOT-353 | XOR Gate | TC7SH86FU | SN74AHC1G86DCK | 74AHC1G86GW | MC74VHC1G86DF | NC7S86P5* |
| 74AHC1G125W5-7 | SOT-25 | 3 State Buffer OE LOW | TC7SH125F | SN74AHC1G125DBV | 74AHC1G125GV | MC74VHC1G125DT | |
| 74AHC1G125SE-7 | SOT-353 | 3 State Buffer OE LOW | TC7SH125FU | SN74AHC1G125DCK | 74AHC1G125GW | MC74VHC1G125DF | |
| 74AHC1G126W5-7 | SOT-25 | 3 State Buffer OE HIGH | TC7SH126F | SN74AHC1G126DBV | 74AHC1G126GV | MC74VHC1G126DT | |
| 74AHC1G126SE-7 | SOT-353 | 3 State Buffer OE HIGH | TC7SH126FU | SN74AHC1G126DCK | 74AHC1G126GW | MC74VHC1G126DF | |
| 74AHC1GU04W5-7 | SOT-25 | Unbuffered Single Inverter | TC7SHU04F | SN74AHC1GU04DBV | 74AHC1GU04GV | MC74VHC1GU04DT | NC7SU04M5* |
| 74AHC1GU04SE-7 | SOT-353 | Unbuffered Single Inverter | TC7SHU04FU | SN74AHC1GU04DCK | 74AHC1GU04GW | MC74VHC1GU04DF | NC7SU04P5* |
| 74AHCT1G00W5-7 | SOT-25 | NAND Gate | TC7SET00F | SN74AHCT1G00DBV | 74AHCT1G00GV | MC74VHC1GT00DT | NC7ST00M5* |
| 74AHCT1G00SE-7 | SOT-353 | NAND Gate | TC7SET00FU | SN74AHCT1G00DCK | 74AHCT1G00GW | MC74VHC1GT00DF | NC7ST00P5* |
| 74AHCT1G02W5-7 | SOT-25 | NOR Gate | TC7SET02F | SN74AHCT1G02DBV | 74AHCT1G02GV | MC74VHC1GT02DT | NC7ST02M5* |
| 74AHCT1G02SE-7 | SOT-353 | NOR Gate | TC7SET02FU | SN74AHCT1G02DCK | 74AHCT1G02GW | MC74VHC1GT02DF | NC7ST02P5* |
| 74AHCT1G04W5-7 | SOT-25 | Single Inverter | TC7SET04F | SN74AHCT1G04DBV | 74AHCT1G04GV | MC74VHC1GT04DT | NC7ST04M5* |
| 74AHCT1G04SE-7 | SOT-353 | Single Inverter | TC7SET04FU | SN74AHCT1G04DCK | 74AHCT1G04GW | MC74VHC1GT04DF | NC7ST04P5* |
| 74AHCT1G08W5-7 | SOT-25 | AND Gate | TC7SET08F | SN74AHCT1G08DBV | 74AHCT1G08GV | MC74VHC1GT08DT | NC7ST08M5* |
| 74AHCT1G08SE-7 | SOT-353 | AND Gate | TC7SET08FU | SN74AHCT1G08DCK | 74AHCT1G08GW | MC74VHC1GT08DF | NC7ST08P5* |
| 74AHCT1G14W5-7 | SOT-25 | Schmitt-Trigger Inverter | TC7SET14F | SN74AHCT1G14DBV | 74AHCT1G14GV | MC74VHC1GT14DT | |
| 74AHCT1G14SE-7 | SOT-353 | Schmitt-Trigger Inverter | TC7SET14FU | SN74AHCT1G14DCK | 74AHCT1G14GW | MC74VHC1GT14DF | |
| 74AHCT1G32W5-7 | SOT-25 | OR Gate | TC7SET32F | SN74AHCT1G32DBV | 74AHCT1G32GV | MC74VHC1GT32DT | NC7ST32M5* |
| 74AHCT1G32SE-7 | SOT-353 | OR Gate | TC7SET32FU | SN74AHCT1G32DCK | 74AHCT1G32GW | MC74VHC1GT32DF | NC7ST32P5* |
| 74AHCT1G86W5-7 | SOT-25 | XOR Gate | TC7SET86F | SN74AHCT1G86DBV | 74AHCT1G86GV | MC74VHC1GT86DT | NC7ST86M5* |
| 74AHCT1G86SE-7 | SOT-353 | XOR Gate | TC7SET86FU | SN74AHCT1G86DCK | 74AHCT1G86GW | MC74VHC1GT86DF | NC7ST86P5* |
| 74AHCT1G125W5-7 | SOT-25 | 3 State Buffer OE LOW | TC7SET125F | SN74AHCT1G125DBV | 74AHCT1G125GV | MC74VHC1GT125DT | |
| 74AHCT1G125SE-7 | SOT-353 | 3 State Buffer OE LOW | TC7SET125FU | SN74AHCT1G125DCK | 74AHCT1G125GW | MC74VHC1GT125DF | |
| 74AHCT1G126W5-7 | SOT-25 | 3 State Buffer OE HIGH | TC7SET126F | SN74AHCT1G126DBV | 74AHCT1G126GV | MC74VHC1GT126DT | |
| 74AHCT1G126SE-7 | SOT-353 | 3 State Buffer OE HIGH | TC7SET126FU | SN74AHCT1G126DCK | 74AHCT1G126GW | MC74VHC1GT126DF | |

* Functional Replacement -Maximim Operating Voltage Differs