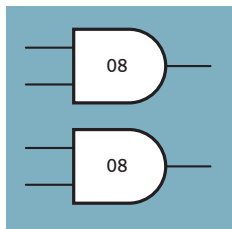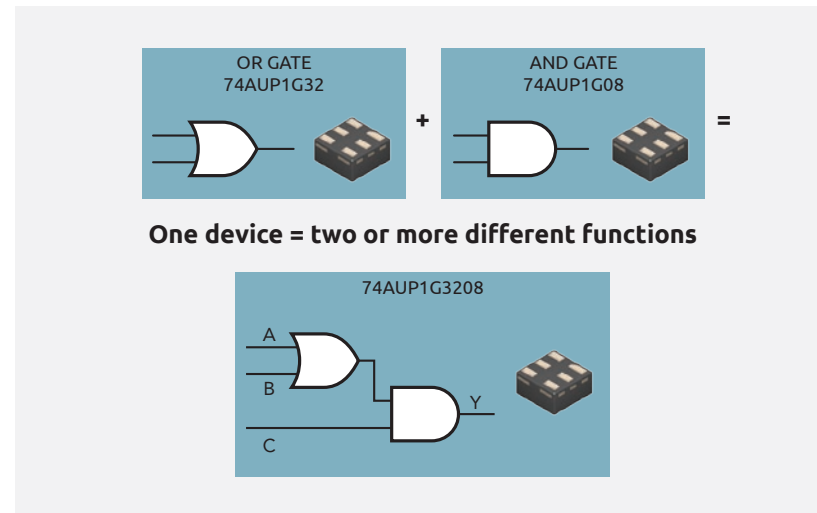# Save more space **with combination logic**

## Discover Combination Logic

Historically we put two or more of the same functions in one package...



74AUP2G08

Why not combine different functions into one package?

| OR GATE 74AUP1G32 | AND GATE 74AUP1G08 |
| --- | --- |

**+** ... **=**

**One device = two or more different functions**

74AUP1G3208



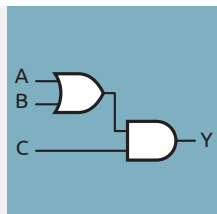### Benefits

› Up to 50% board space savings
› Up to 50% reduction in both static and dynamic power
› Up to 30% increased performance by reducing propagation delay (for single gate devices)
› Improved reliability through reduced pin count
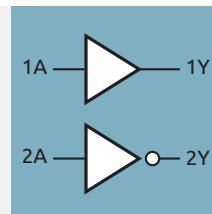
## Types of combination logic

**Single gate**
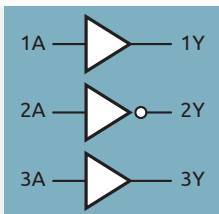Two different functions internally cascaded in one package

**Dual gate**
Two different functions in one package

**Triple gate**
Combination of different functions in one package

# nexperia

# Save more space with combination logic

› Functions and families currently available in Combination Logic are shown below
› Additional functions and families in Combination Logic can be made upon request
› All types below are specified for -40 to +125°C ambient temperature range
› Dual Configurable Logic can also be used to implement custom configurations

For more information, please contact your local Nexperia sales representative.

For product datasheets, additional information, and the latest list of released functions, please visit:
https://www.nexperia.com/products/logic/gates/combination-gates/

| Type number | Description | $V_{CC}$ (V) | Output drive capability (mA) | $t_{pd}$ (ns) | $f_{max}$ (MHz) | Packages Suffix | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | SOT1202 GS | SOT886 GM | SOT363 GW | SOT765 DC | SOT833 GT | SOT1255 GX | SOT1203 GS | SOT1081 GF |
| 74AUP1G0832 | Single 3-input AND-OR gate | 1.1 to 3.6 | ±1.9 | 6.7 | 70 | • | • | • | | | | | |
| 74AUP1G3208 | Single 3-input OR-AND gate | 1.1 to 3.6 | ±1.9 | 7.4 | 70 | • | • | • | | | • | | |
| 74AUP1G885 | Dual function gate | 1.1 to 3.6 | ±1.9 | 7.6 | 70 | | | | • | • | | • | |
| 74AUP1Z04 | Crystal driver with enable and internal resistor | 1.1 to 3.6 | ±1.9 | 5.6 | 70 | • | • | • | | | | | |
| 74AUP1Z125 | Crystal driver with enable and internal resistor (3-state) | 1.1 to 3.6 | ±1.9 | 4.7 | 70 | • | • | • | | | | | |
| 74AUP2G0604 | Inverter with open drain and inverter | 1.1 to 3.6 | ±1.9 | 4.0 | 70 | • | • | • | | | | | |
| 74AUP2G3404 | Buffer and inverter | 1.1 to 3.6 | ±1.9 | 4.0 | 70 | • | • | • | | | | | |
| 74AUP2G3407 | Buffer and buffer with open drain | 1.1 to 3.6 | ±1.9 | 4.1 | 70 | • | • | • | | | | | |
| 74AUP2T1326 | Dual supply buffer/line driver; 3-state | 1.1 to 3.6 | ±1.9 | 3.8 | 70 | | | | | | | | • |
| 74AUP3G0434 | Dual inverter and single buffer | 1.1 to 3.6 | ±1.9 | 4.0 | 70 | | | | • | • | | • | |
| 74AUP3G3404 | Dual buffer and single inverter | 1.1 to 3.6 | ±1.9 | 4.0 | 70 | | | | • | • | | • | |
| 74LVC1GX04 | Crystal driver | 1.65 to 5.5 | ±24 | 2.8 | 150 | | | • | | | | | |

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