

Product Overview

74VHCT138A: 3-to-8 Decoder/Demultiplexer

For complete documentation, see the data sheet.

The VHCT138A is an advanced high speed CMOS 3-to-8 DECODER fabricated with silicon gate CMOS technology. It achieves the high speed operation similar to equivalent Bipolar Schottky TTL while maintaining the CMOS low power dissipation. When the device is enabled, 3 Binary Select inputs (A_0 , A_1 , and A_2) determine which one of the outputs ($O_{\#_0}$ - $O_{\#_7}$) will go LOW. When enable input E_3 is held LOW or either $E_{\#_1}$ or $E_{\#_2}$ is held HIGH, decoding function is inhibited and all outputs go HIGH. E_3 , $E_{\#_1}$ and $E_{\#_2}$ inputs are provided to ease cascade connection and for use as an address decoder for memory systems. Protection circuits ensure that 0V to 7V can be applied to the input pins without regard to the supply voltage and to the output pins with $V_{CC} = 0V$. These circuits prevent device destruction due to mismatched supply and input/output voltages. This device can be used to interface 3V to 5V systems and two supply systems such as battery backup.

Features

- High Speed: $t_{PD} = 7.6$ ns (typ) at $V_{CC} = 5V$
- Low power dissipation: $I_{CC} = 4$ μA (max.) at $T_A = 25^\circ C$
- Power down protection is provided on all inputs and outputs
- Pin and function compatible with 74HCT138

Applications

- This product is general usage and suitable for many different applications.

| Part Electrical Specifications | | | | | | | | |
|--------------------------------|-------------|--------|----------|------------------|------------------|-------------------|----------------|--------------|
| Product | Compliance | Status | Channels | V_{CC} Min (V) | V_{CC} Max (V) | t_{pd} Max (ns) | I_O Max (mA) | Package Type |
| 74VHCT138AMTC | Pb-free | Active | 1 | 4.5 | 5.5 | 8.1 | 8 | TSSOP-16 |
| | Halide free | | | | | | | |
| 74VHCT138AMTCX | Pb-free | Active | 1 | 4.5 | 5.5 | 8.1 | 8 | TSSOP-16 |
| | Halide free | | | | | | | |

For more information please contact your local sales support at www.onsemi.com.

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