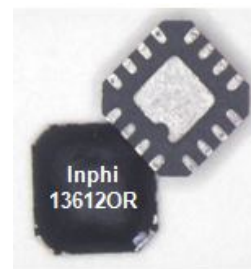


## 13612OR

### 13 Gbps OR/NOR/AND/NAND



### Applications

- High-speed (up to 13 GHz) digital logic
- High-speed (up to 13 Gbps) serial data transmission systems
- Broadband test and measurement equipment
- NRZ-to-RZ / RH conversion
- Differential encoding for optical DPSK and duobinary transmitter modules

### Features

- Supports data rates up to 13 Gbps
- Rise and fall times: 15 ps typical
- Power consumption: 275 mW typical
- Supports single-ended and differential operation
- Output signal swing: 1200 mV
- Single, -3.3 V power supply
- Available in QFN package
- Evaluation board available

### Description

The 13612OR OR/NOR/AND/NAND is designed to support data rates up to 13 Gbps. Differential inputs and outputs allow the part to be easily configured to perform any of the four logic functions: OR, NOR, AND, and NAND. The 13612OR can also be used to convert properly timed NRZ data and clock inputs into RZ / RH data at ultra-high speeds.

All differential data inputs are DC coupled and terminated on chip with 50  $\Omega$  resistors to ground. The differential data outputs are back-terminated on chip with 60  $\Omega$  resistors to ground (50  $\Omega$  impedance). For direct-coupled applications, the differential outputs should also be terminated off chip with 50  $\Omega$  resistors to ground (GND). For applications requiring termination to DC levels other than GND, external AC coupling to a good RF ground is required. See the application note for various terminal examples.

The 13612OR operates from a single -3.3 V power supply and dissipates only 275 mW. It is available in a 3 mm x 3 mm quad flat no-lead (QFN) package and is also available on an evaluation board with SMA connectors.

### Market(s)

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### Product Type

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High-Speed Logic



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