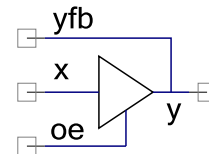


# Tri-State Buffer (Bufoe)

1.0

## Features

- Buffer with Output Enable signal
- Feedback signal



## General Description

The Tri-State Buffer (Bufoe) component is a non-inverting buffer with an active low output enable signal. When the output enable signal is true, the buffer functions as a standard buffer. When the output enable signal is false, the buffer turns off.

## When to use a Tri-State Buffer

The Tri-State Buffer should be used to interface to a shared bus such as I<sup>2</sup>C. Tri-State Buffers should not be used for internal logic. Tri-State Buffers can only be used with an I/O pin.

## Input/Output Connections

This section describes the various input and output connections for the Tri-State Buffer.

### x – Input

Input to the buffer.

### oe – Input

This is the output enable connection. When oe is true ('0'), the buffer will be on. When oe is false ('1'), the buffer output is in a high-impedance state.

### y – Inout

This connection is connected to the output of the buffer. When oe is true ('0'), this connection is an output, and y has the same value as x. When oe is false ('1'), this connection may be used as an input.

**PRELIMINARY**

## **yfb – Output**

This is the feedback signal from the y connection. When oe is true ('0') the yfb and y have the same value as x. When oe is false ('1'), yfb has the same value seen at y irrespective of x.

## **Component Parameters**

Not Applicable

## **Placement**

Each I/O port is limited to four unique output enable signals.

## **Resources**

Not Applicable

## **Application Programming Interface**

Not Applicable

## **Sample Firmware Source Code**

Not Applicable

## **Interrupt Service Routine**

Not Applicable

## **Functional Description**

**PRELIMINARY**



## DC and AC Electrical Characteristics

The following values are indicative of expected performance and based on initial characterization data.

### 5.0V/3.3V DC and AC Electrical Characteristics

Parameter	Typical	Min	Max	Units	Conditions and Notes
Input					
Input Voltage Range	---		Vssd to Vddio	V	
Input Capacitance	---		---	pF	
Input Impedance	---		---	$\Omega$	
Maximum Clock Rate	---		33	MHz	

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