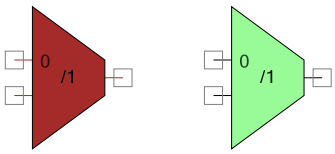
Virtual Mux

1.0

Features



- Selects 1 of up to 16 inputs
- Selection is static
- Configurable number of inputs

General Description

Virtual mux components are similar to conventional muxes in that they connect a selected input to an output. For a conventional mux, the input selection can be dynamically controlled by a control signal. For a virtual mux, the input selection is determined by an expression that evaluates to a constant when used within a design. The purpose of the virtual mux is to pick one input at build time.

There are two separate virtual mux components: one analog and one digital.

When to Use a Virtual Mux

A virtual mux is commonly used as an internal to a schematic-based component. For example, it can be used by PSoC Creator to select the clock from a set of clock sources.

Input/Output Connections

The virtual mux has a number of inputs and a single output. The inputs and the outputs all share the same signal width.

in_k – Input

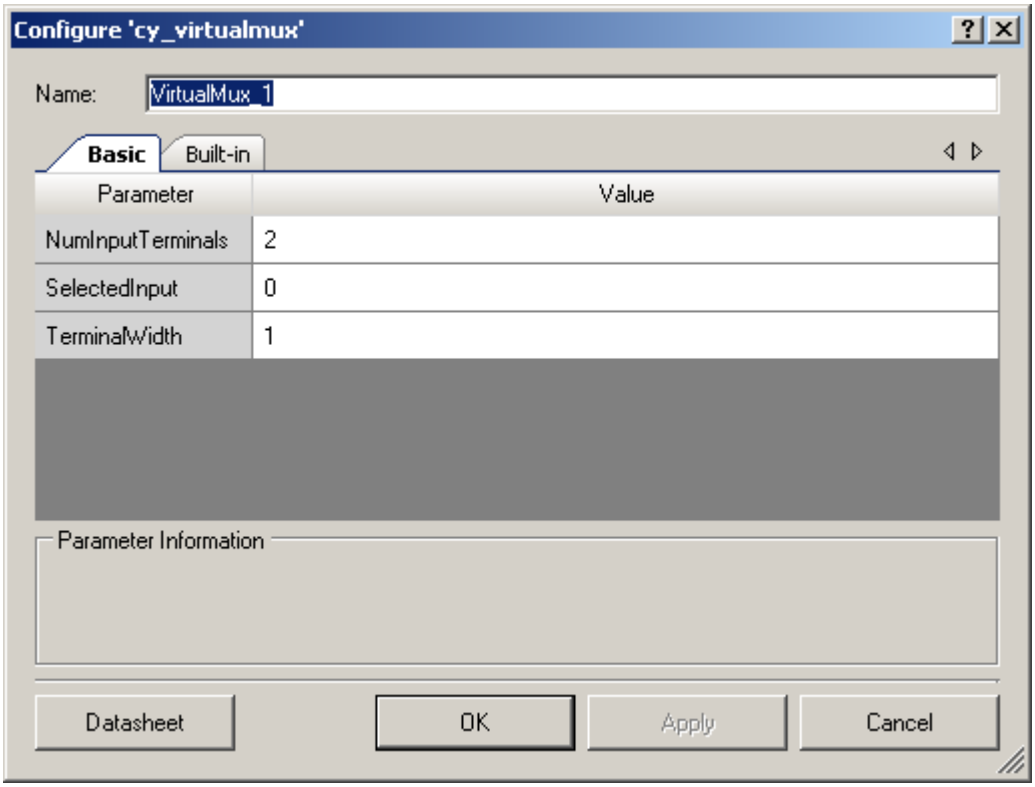
There are N inputs, indexed from 0 to N – 1. There is a minimum of two inputs, in_0 and in_1, for digital virtual mux. There is a minimum of one input, in_0, for analog virtual mux.

selected_out – Output

The output terminal is named selected_out.

Component Parameters

Drag a virtual mux onto your component schematic canvas and double-click it to open the **Configure** dialog.



The virtual mux provides the following parameters:

NumInputTerminals

Specifies the number of input terminals; the default is **2**.

SelectedInput

Specifies which input (numbered from the default **0**) should be connected to the output.

TerminalWidth

Determines the common width of all the input and output terminals; default is **1**.

Functional Description

Virtual muxes, in general, consume no chip resources. In effect, they short the selected input to the output connection.

Component Changes

This section lists the major changes in the component from the previous version.

Version	Description of Changes
1.0.f	Minor datasheet edits.
1.0.e	Minor datasheet edits.
1.0.d	Minor datasheet edits.
1.0.c	Minor datasheet edits.
1.0.b	Datasheet corrections
1.0.a	Minor datasheet edits and updates

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