Analog Port
1.0

Deprecation of Analog Port

The Analog Port component and its associated data sheet have been deprecated and replaced by the Pins component and data sheet. This was due to the creation of the Pins component to provide a more flexible solution for pins and ports. The Analog Port component remains in the Component Catalog to support legacy designs; however, it will be hidden by default for new designs, and it has been moved to a "deprecated" folder.

You should update your designs that use the Analog Port component to use the Pins component. To replace the component:

1. Select the Analog Pin from under the **Ports and Pins** section of the Component Catalog.
2. To have the terminals drawn as a bus, as they did on the Analog Port, go to the **Mapping** tab and select the "Display as Bus" option.
3. Configure the Pins component to match your Analog Port settings using the following conversion table.

Port Parameter	Equivalent Pins Component Setting
PowerOnResetState	This can be set from the **Reset** tab. InDisabledOutHiZ = High-Z Analog InEnabledOut1 = Pulled Up InEnabledOut0 = Pulled Down InEnabledOutHiZ = No longer supported
Width	From the **Pins** tab there is a Num Pins text box on the toolbar in the upper left of the tab.
Alias	From the **Pins** tab, select a pin from the tree on the left side of the tab then either click the **Rename** button, press [**F2**], or double-click the pin in the tree. This will open a dialog where the alias can then be specified.
Pin Mode	This is now set from the **Pins/General** tab from the Drive Mode drop down list. CMOS_Out = Strong Drive Hi_Z = High Impedance Analog ResPull_Up = Resistive Pull Up ResPull_Down = Resistive Pull Down ResPull_UpDown = Resistive Pull Up/Down OpenDrain_Lo = Open Drain, Drives Low OpenDrain_Hi = Open Drain Drives High

4. Delete your Analog Port and move the new Pins component to its old location.
5. Right-click on your project in the Workspace Explorer and select **Update Components**; use the Component Update Tool to update the latest version of the cy_boot component.

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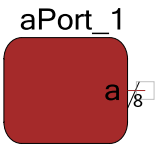
Features



- Configurable drive modes
- Variable widths

General Description

The analog port provides access to external signals via an appropriately configured I/O. All ports allow for the creation of per-pin aliases, which may be viewed in the PSoC Creator Design-Wide Resources Pin Editor.

When to use a Port

Use a port when a design needs to generate or access an off-device signal. Use an appropriate port for the type of signal being accessed (digital or analog).

Input/Output Connections

This section describes the various input and output connections for the port components. An asterisk (*) in the list of I/O's states that the I/O may be hidden on the symbol under the conditions listed in the description of that I/O.

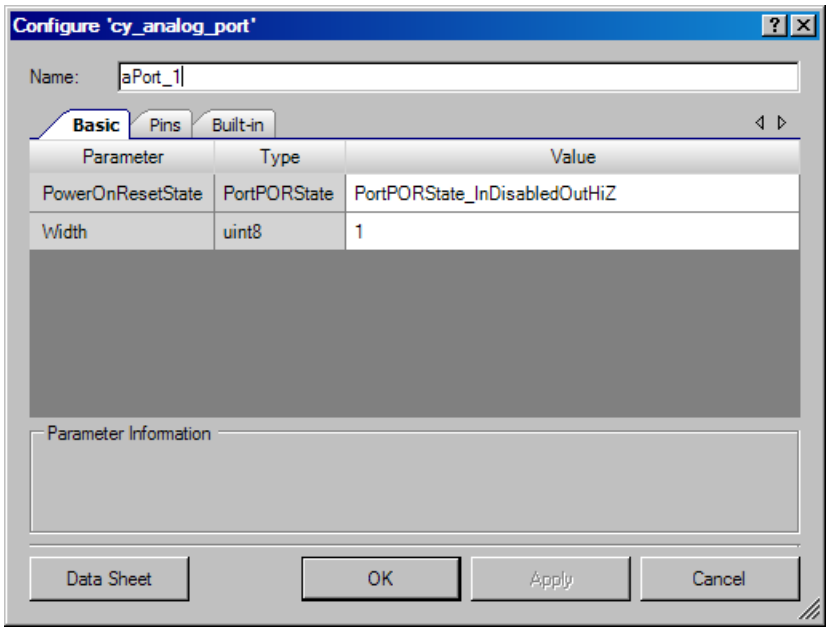
a – Input/Output

Provides access to the analog signal.

Component Parameters

Drag a Port onto your design and double-click it to open the Configure dialog.

Basic Tab



PowerOnResetState

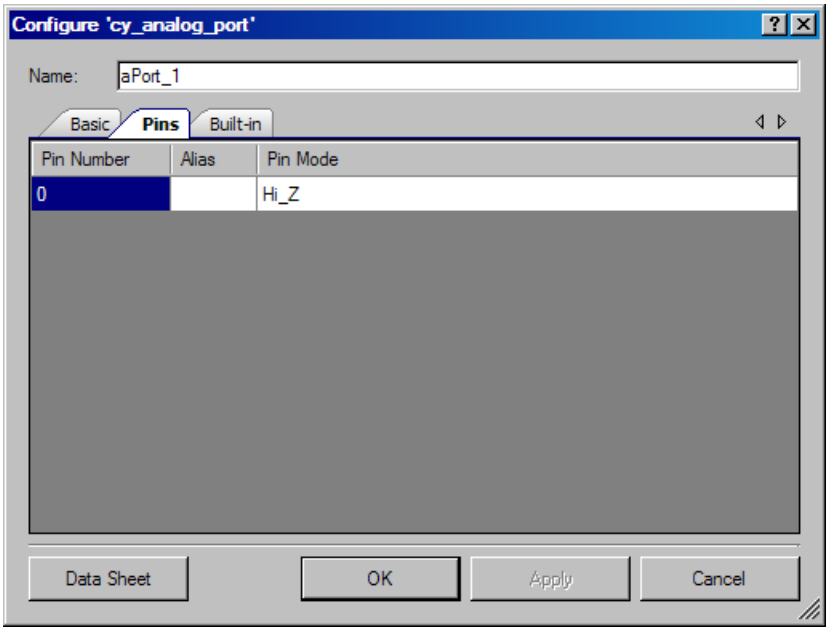
This parameter specifies the power on reset state of the port. Legal values include:

- **InDisabledOutHiZ** (default) – input disabled the output is Hi-Z
- InEnabledOutHiZ – input enabled the output is Hi-Z
- InEnabledOut1 – input enabled the output is a logic one
- InEnabledOut0 – input enabled the output is a logic zero

Width

Specifies the width in bits of the logical port (default is 1).

Pins Tab



Alias

Allows an alias to be assigned to each pin in the port. The alias is presented in the Pin Editor.

Pin Mode

Allows for the configuration of the pin mode to the following settings:

Table 1: Pin/ Drive Modes

Pin Mode	Description	High Output (Data = 1)	Low Output (Data = 0)	Input Buffer
CMOS_Out	Strong CMOS out	Strong 1	Strong 0	On
Hi_Z (default)	Hi – Z Analog – DM[2:0] default from reset state	High-Z	High-Z	Off
ResPull_Up	Resistive pull up	Res 1 (5k)	Strong 0	On
ResPull_Down	Resistive pull down	Strong 1	Res 0 (5k)	On
OpenDrain_Lo	Open Drain (drive lo)	High-Z	Strong 0	On
OpenDrain_Hi	Open Drain (drive hi)	Strong 1	High-Z	On
ResPull_UpDown	Resistive pull up/down	Res 1 (5k)	Res 0 (5k)	On

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Resources

All ports consume one physical pin, per bit of their width parameter.

Application Programming Interface

Not applicable.

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	---		Vss to Vdd	V	
Input Capacitance	---		---	pF	
Input Impedance	---		---	Ω	
Maximum Clock Rate	---		67	MHz	