Digital Constant

1.0



Features

- Represents a digital value clearly on a schematic
- Display in hexadecimal or decimal
- Configurable width up to 32 bits

General Description

The Digital Constant provides a convenient way to represent digital values in designs.

When to Use a Digital Constant

Use the Digital Constant whenever a constant digital value is needed in a design. Common use cases include bit-masks and magnitude comparisons.

Input/Output Connections

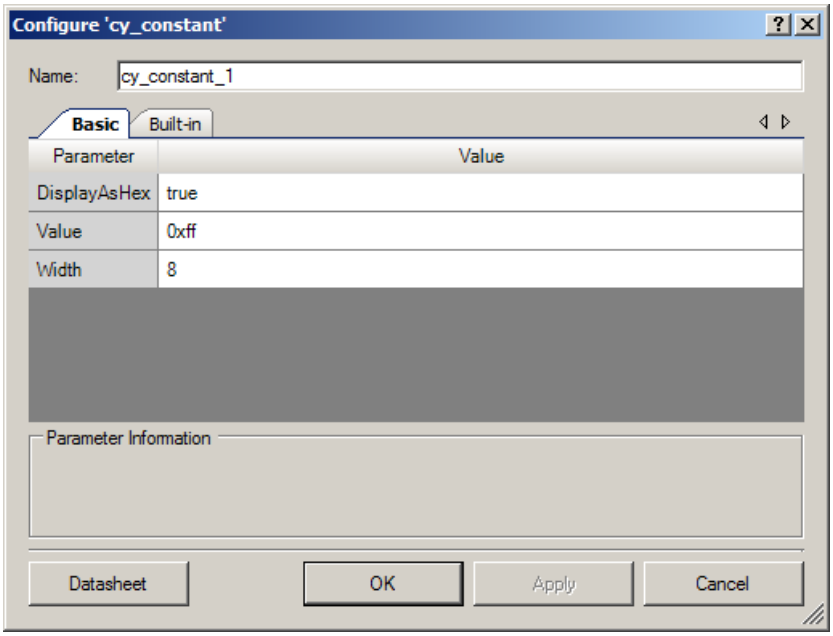
This section describes the various input and output connections for the Digital Constant.

val – Output

The specified value.

Component Parameters

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



The Digital Constant provides the following parameters.

DisplayAsHex

Determines whether the component symbol displays the value as hexadecimal (**true**) or decimal (**false**). The default is **true**.

Value

Determines the value represented by the component, which must be between 0 and 2^{Width}. The default is **0xff**.

Width

Determines the width of the **val** terminal. Width must be between 1 and 32. The default is **8**.

Functional Description

The Digital Constant assigns the specified value to all of the **val** terminal's connections.

Resources

All Digital Constants in your design combined may consume up to two macrocells. They will consume a single macrocell to represent logic "1" if any bits of the constants include a "1" bit. Another single macrocell is used to represent logic "0" in the same manner. However in many cases, the constant value can be optimized away. This is possible when PSoC Creator can configure the function such that it operates in the same way as it would with a routed constant value. Therefore, it is possible to use the Digital Constant without consuming any resources.

MISRA Compliance

This section describes the MISRA-C:2004 compliance and deviations for the component. There are two types of deviations defined: project deviations – deviations that are applicable for all PSoC Creator components and specific deviations – deviations that are applicable only for this component. This section provides information on component specific deviations. The project deviations are described in the MISRA Compliance section of the *System Reference Guide* along with information on the MISRA compliance verification environment. For PSoC 6, refer to PSoC Creator Help > Building a PSoC Creator Project > Generated Files (PSoC 6) for information on MISRA compliance and deviations for files generated by PSoC Creator.

The Digital Constant component does not have any C source code APIs.

DC and AC Electrical Characteristics

The Digital Constant component supports the maximum device frequency.

Component Changes

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

Version	Description of Changes	Reason for Changes / Impact
1.0.d	Updated MISRA section. Added PSoC 6 support.	
1.0.c	Minor datasheet edits.	
1.0 b	Updated resources information.	
1.0.a	Corrected a parameter description.	Previous version of datasheet contained a typo.
1.0	First version of this component.	

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