

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

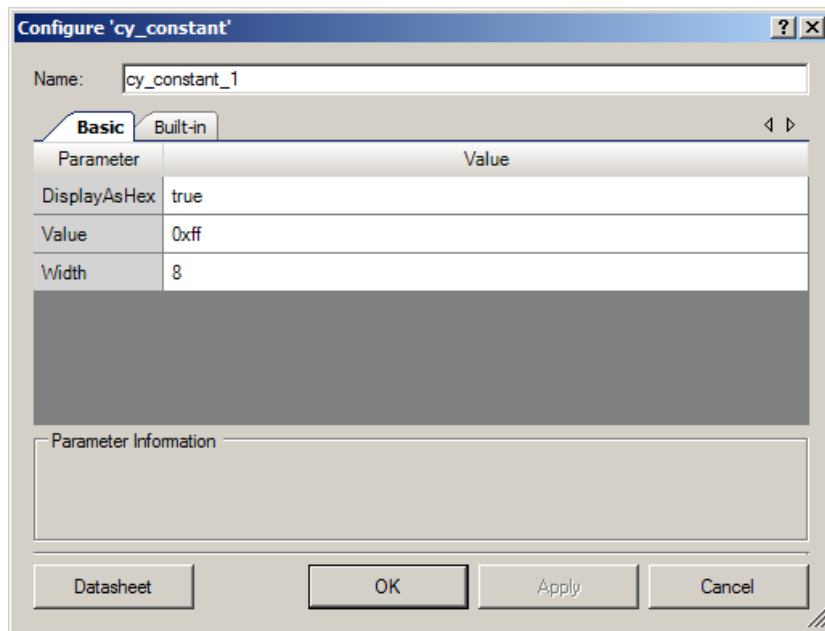
This section describes the various input and output connections for the Digital Constant.

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.	



© Cypress Semiconductor Corporation, 2012-2017. This document is the property of Cypress Semiconductor Corporation and its subsidiaries, including Spansion LLC ("Cypress"). This document, including any software or firmware included or referenced in this document ("Software"), is owned by Cypress under the intellectual property laws and treaties of the United States and other countries worldwide. Cypress reserves all rights under such laws and treaties and does not, except as specifically stated in this paragraph, grant any license under its patents, copyrights, trademarks, or other intellectual property rights. If the Software is not accompanied by a license agreement and you do not otherwise have a written agreement with Cypress governing the use of the Software, then Cypress hereby grants you a personal, non-exclusive, nontransferable license (without the right to sublicense) (1) under its copyright rights in the Software (a) for Software provided in source code form, to modify and reproduce the Software solely for use with Cypress hardware products, only internally within your organization, and (b) to distribute the Software in binary code form externally to end users (either directly or indirectly through resellers and distributors), solely for use on Cypress hardware product units, and (2) under those claims of Cypress's patents that are infringed by the Software (as provided by Cypress, unmodified) to make, use, distribute, and import the Software solely for use with Cypress hardware products. Any other use, reproduction, modification, translation, or compilation of the Software is prohibited.

TO THE EXTENT PERMITTED BY APPLICABLE LAW, CYPRESS MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARD TO THIS DOCUMENT OR ANY SOFTWARE OR ACCOMPANYING HARDWARE, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. To the extent permitted by applicable law, Cypress reserves the right to make changes to this document without further notice. Cypress does not assume any liability arising out of the application or use of any product or circuit described in this document. Any information provided in this document, including any sample design information or programming code, is provided only for reference purposes. It is the responsibility of the user of this document to properly design, program, and test the functionality and safety of any application made of this information and any resulting product. Cypress products are not designed, intended, or authorized for use as critical components in systems designed or intended for the operation of weapons, weapons systems, nuclear installations, life-support devices or systems, other medical devices or systems (including resuscitation equipment and surgical implants), pollution control or hazardous substances management, or other uses where the failure of the device or system could cause personal injury, death, or property damage ("Unintended Uses"). A critical component is any component of a device or system whose failure to perform can be reasonably expected to cause the failure of the device or system, or to affect its safety or effectiveness. Cypress is not liable, in whole or in part, and you shall and hereby do release Cypress from any claim, damage, or other liability arising from or related to all Unintended Uses of Cypress products. You shall indemnify and hold Cypress harmless from and against all claims, costs, damages, and other liabilities, including claims for personal injury or death, arising from or related to any Unintended Uses of Cypress products.

Cypress, the Cypress logo, Spansion, the Spansion logo, and combinations thereof, WICED, PSoC, CapSense, EZ-USB, F-RAM, and Traveo are trademarks or registered trademarks of Cypress in the United States and other countries. For a more complete list of Cypress trademarks, visit cypress.com. Other names and brands may be claimed as property of their respective owners.

