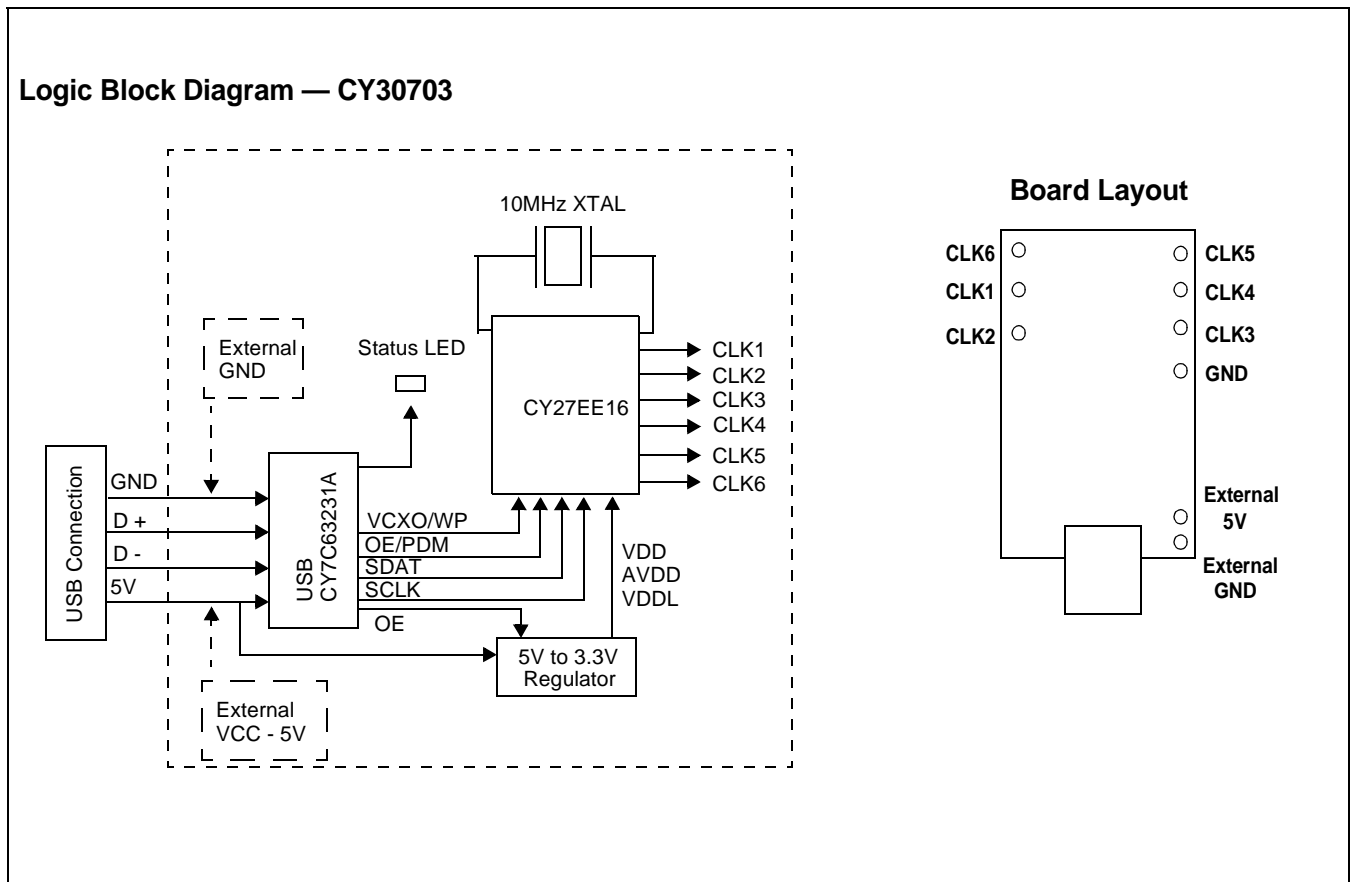


Blueberry Board (CY27EE16 Candy Board)

Features	Benefits
Demonstrates CY27EE16 capabilities	See actual waveforms from a JEDEC file you just created
CyberClocks™ Support	Easy-to-use software configuration support, program on-the-fly in seconds
USB interface	Simple plug and play interface
Built-in crystal	No external reference is required for use
Built in test points	Easily accessible probe points
Compact design	Easily portable, like a piece of candy



Overview

The Blueberry board can be used to serially program the volatile and non-volatile memory of the CY27EE16, and to measure the actual performance of the user's configuration. The data sheet has a broad jitter specification of typically 250 ps, but there are many configurations that will have much higher performance, and others in which the performance is less ideal. The Blueberry board allows a prospective user to see real performance, or a systems engineer to see output phase relationships and thereby get a better feel for what the CY27EE16 is capable of doing. All a user needs is a computer running CyberClocks with a USB connection and an oscilloscope to look at waveforms, or just an oscilloscope and 5V power supply to look at the flash-programmed configurations in the CY27EE16.

CY30703 Blueberry Board

The CY30703 Blueberry board is a demo board that features the CY27EE16 in-system programmable clock chip. The boards are USB-compatible and can run stand-alone or with our CyberClocks software.

How to Use the Boards

In order to program the Candy boards, users must have Windows® 98 Second Edition OS or later installed on their computer. The user will need to plug the device into their USB port; Windows should be able to detect and install the appropriate drivers automatically. If you are using Windows 98 SE, you will need the Windows installation disk to install appropriate drivers.

Each Blueberry board features a preprogrammed CY27EE16 embedded onto the board. The default start-up condition has the reference frequency on clock 1. The user can vary frequencies on the outputs by programming the part with CyberClocks. When using an external power supply, do not connect the board to the USB port, as it may damage your computer and candy board.

SMA Connections

Each clock output probe point has the ground plane exposed on either side to enable a user to solder on a SMA connector. Due to space restrictions, only every other clock output can have a SMA connector.

Using CyberClocks with the Blueberry Board

Users can also program the part using our CyberClocks software which is found on the web. The CY27EE16 device is under the ISR field of the main CyberClocks user interface.

There are two ways the user can program the part on the candy boards. The user can either open up a new or existing CY27EE16 JEDEC file or go under options and select candy board set-up to program the part.

Using a CY27EE16 JEDEC File in CyberClocks to Program the Part

The reference embedded on the board is a 10-MHz crystal, therefore users should input 10-MHz as their REF frequency when trying to program the part on-board with CyberClocks.

With the first option, the user can program the part on the candy board by opening a new or existing CY27EE16 JEDEC file. Once the candy board is plugged in, a send button should appear on the bottom of the Advanced Mode interface next to the calculate button. Once the desired configuration is set, the user should click on calculate and then click on the send button to send the program to the board. The LED on the board should blink and then stop, indicating that it has received the data.

This option will only allow for the volatile memory portion of the device to be programmed.

Using the Candy Board Set-up in CyberClocks to Program the Part

Under the Options menu, select Candy Board Set-up. This will bring up the Candy Board Set-up window. Select the CY27EE16 under Candy Board List. The current configuration shown in the CY27EE16 user interface will be automatically loaded. If the user desires to program the board with a file that is not the currently opened version, they can do so by clicking on Load JEDEC. The user can select a file that is stored on the computer with which to program the candy board.

In this option, the user can click on the "Write to non-volatile memory" box. Doing so will program the EEPROM memory of the CY27EE16 and allow the user to power down the board and still retain its new configuration.

CY27EE16 Input Pins

The OE/PDM pin will always be pulled high. The software will override the user input settings and set the VCXO/WP pin to be WP in order to always enable EEPROM programming into the device.

Device Address

The software will override any user changes to the I²C device addresses and use the default values. This is to insure that the board will always work with CyberClocks.

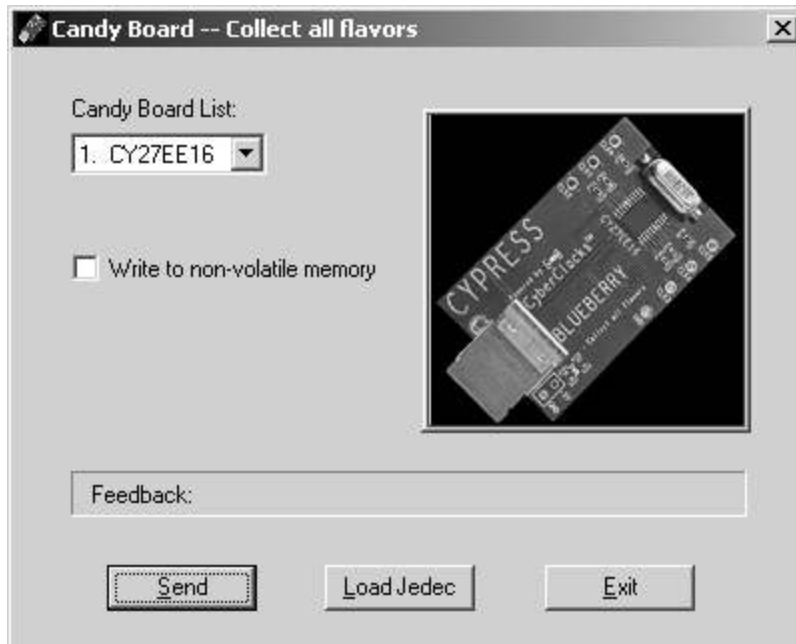


Figure 1. Candy Board Set-up Window

Ordering Information

Ordering Code	Package Name	Package Type	Operating Range	Operating Voltage
CY30703			25c	5V

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Document History Page

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REV.	ECN NO.	Issue Date	Orig. of Change	Description of Change
**	127370	06/06/03	RGL/CKN	New Data Sheet