Digilent PmodBTN™ Pushbutton Module Board Reference Manual

Overview

The Digilent PmodBTN Pushbutton Module Board (the BTN™) allows four momentary pushbuttons to be added to any system board using a 6-pin header connector.

Features include:

- a 6-pin header connector
- four momentary pushbutton switches
- eight protection diodes
- four Schmitt-trigger inverters
- four debouncing filters
- small form factor (1.30" x 0.80").

Functional Description

The BTN eliminates errors caused by electrical contacts in switches making and breaking contact several times ("bouncing") before settling into position. The resulting signal is often unusable unless it is debounced.

Each of the BTN's four pushbutton switch channels has an analog filter consisting of two resistors and a capacitor. The filters absorb and diffuse large signal bounces, presenting smoother constantly changing signals to the Schmitt-trigger inverters (which process switch or logic input). The pushbutton switches can be used individually or any of them can be used simultaneously.

The BTN has protection diodes that prevent damage to the inverters from overvoltage. Resistors protect the BTN from conflicting output voltages.

The BTN has a 6-pin header for easy connection to a Digilent system board. For example, some system boards like the Digilent Pegasus board have a 6-pin header that can connect to the BTN with a 6-pin cable.
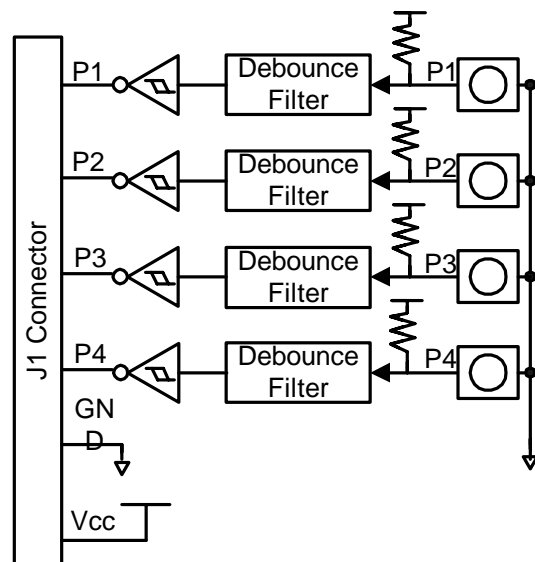
BTN Circuit Diagram

To connect the BTN to other Digilent system boards, a Digilent Modular Interface Board (MIB) and a 6-pin cable are needed. The MIB plugs into the system board, and the cable connects the MIB to the BTN.

For more information, see www.digilentinc.com.