Using the USB100 Demoboard

Fairchild Semiconductor
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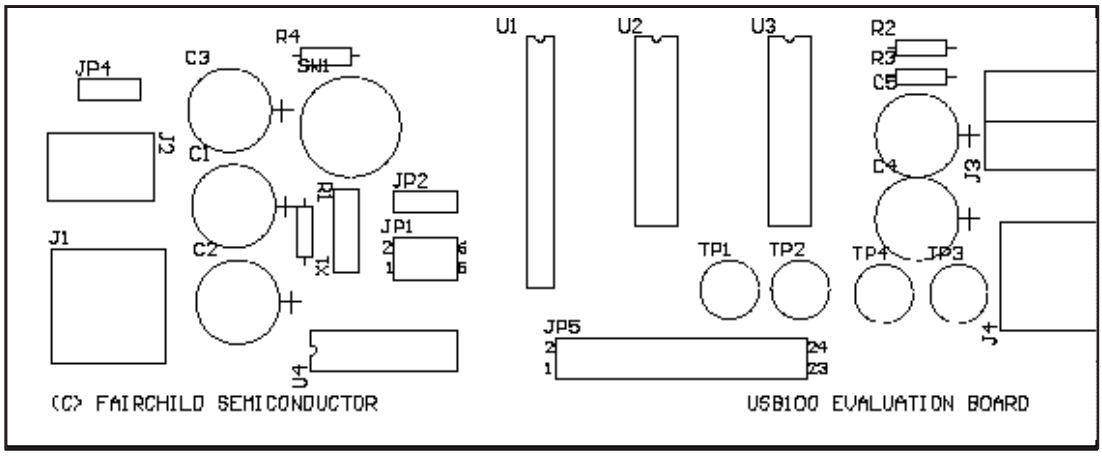
The USB100 demoboard is a simple adapter board designed to allow the customer evaluate the functionality in the mouse, joystick, trackball and digital gamepad modes. The device is currently available in 3 different packages, a 24-pin package (USB100NA24) that can be used for all of the above applications, and two 18 pin packages USB100NA183D (for a 3D mouse) and USB100NA18 for a 2D mouse.

The following is a picture of the USB100 demoboard. It contains all of the logic to work in the bus powered or self powered mode.

More specifically, It includes the reset circuitry, crystal oscillator options the the needed interface for the USB interface. The interface to the actual mouse/joystick mechanism can be made using a connecter JP5 which is provided. This connector contains all of the signals of the USB100, and a direct interface can be made to the mouse roller, IR led and photo transistor. Also, it can be used to connect to the joystick potentiometer and buttons. This document explains the various jumper settings and describes how to use the demoboard.



J3 is a USB type B connector. This is the preferred connector for connection to the PC. J4 is a type A connector, and is provided to allow compatibility to certain test equipment and cable types that were available during the intitial USB development stages (type A to type A cables).

Jumper functions

JP4 1-2: Self powered (use J2 for connecting a 5v supply)
2-3: Bus powered device (no power supply required)

JP2 1-2: External Clocking option (connect via J1)
2-3: On-board clocking option(crystal oscillator or Crystal).

JP1 1-3, 2-4 Use metal-can crystal oscillator (U4)
3-5, 4-6 Use crystal oscillator option.

The following table describes the connections on the JP5 connector

Pin number	Function	Comments
1,23	GND	
2,24	VDD	
3	NC	No connect
5	B1	
7	B2	
9	B3	
11	B4	
13	B5	
15	B6	
17	B7	
19	B8/F	B8 in button mode, F in mouse
6	H1	
8	H2	
10	V1	
18	V2	
14	H3	
16	H4	
22	O1	
20	O2	

In addition, the following Testpoints are provided:

TP1: VDD

TP2: GND

TP3: USB D-

TP4: USB D+

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