

FSUSB45 — Hi-Speed USB2.0 (480Mbps) Switch with Dedicated Charger Port Detect

Features

- Low On Capacitance: 7.0pF Typical
- Low On Resistance: 3.9Ω Typical
- Low Power Consumption: 1μA Maximum
 - 15μA Maximum I_{CC}T over an Expanded Voltage Range (V_{IN}=1.8V, V_{CC}=4.3V)
- Wide -3db Bandwidth: > 720MHz
- Packaged in:
 - 10-Lead MicroPak™ (1.6 x 2.1mm)
 - 10-Lead UMLP (1.4 x 1.8mm)
- 8kV ESD Rating, >16kV Power/GND ESD Rating
- Power-Off Protection on All Ports When V_{CC}=0V
 - D+/D- Pins Tolerate up to 5.25V

Applications

- Cell Phone, PDA, Digital Camera, and Notebook
- LCD Monitor, TV, and Set-top Box

IMPORTANT NOTE:

For additional performance information, please contact analogswitch@fairchildsemi.com.

Description

The FSUSB45 is a bi-directional, low-power, two-port, Hi-Speed, USB2.0 switch. Configured as a double-pole, double-throw (DPDT) switch, it is optimized for switching between two Hi-Speed (480Mbps) sources or a Hi-Speed source and a Full-Speed (12Mbps) source.

The FSUSB45 is compatible with the requirements of USB2.0 and features an extremely low on capacitance (C_{ON}) of 7.0pF. The wide bandwidth of this device (720MHz) exceeds the bandwidth needed to pass the third harmonic, resulting in signals with minimum edge and phase distortion. Superior channel-to-channel crosstalk also minimizes interference.

The FSUSB45 contains special circuitry on the switch I/O pins for applications where the V_{CC} supply is powered-off (V_{CC}=0), which allows the device to withstand an over-voltage condition. This device is designed to minimize current consumption even when the control voltage applied to the SEL pin is lower than the supply voltage (V_{CC}). This feature is especially valuable to mobile applications, such as cell phones, allowing for direct interface with the general-purpose I/Os of the baseband processor. An additional feature is the detection of the 1,1 state on D+/D- to signal an interrupt (INT) to the processor when entering a dedicated charging port mode of operation.

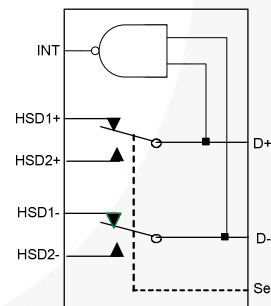


Figure 1. Analog Symbol

Ordering Information

Part Number	Top Mark	Operating Temperature Range	Eco Status	Package
FSUSB45L10X	JA	-40 to +85°C	RoHS	10-Lead MicroPak™ 1.6 x 2.1mm, JEDEC MO-255B
FSUSB45UMX	JB	-40 to +85°C	Green	10-Lead, Quad, Ultrathin Molded Leadless Package (UMLP), 1.4 x 1.8mm

MicroPak™ is a trademark of Fairchild Semiconductor Corporation.

For Fairchild's definition of "green" Eco Status, please visit: http://www.fairchildsemi.com/company/green/rohs_green.html.



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Definition of Terms

Datasheet Identification	Product Status	Definition
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Preliminary	First Production	Datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
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