



March 2007

# FSA203 — Multimedia High-Speed USB, Video, and Negative Swing Audio Switch with Video Amp/Filter

## Features

- USB: 3.5Ω Typical On Resistance
- Video/Mic: 3Ω Typical On Resistance
- Audio: 3.5Ω Typical On Resistance
- USB: -3db Bandwidth at 0pF > 745MHz
- Video: -3db Bandwidth > 615MHz
- Video: 1.0db Flatness > 6MHz
- Low-Power Shutdown Mode: 1μA Maximum
- Power-Off Protection on Common D+/R, D-/L, Video/Microphone Ports
- Packaged in Pb-free 20-Lead DQFN and 2.5 x 4.5mm 20-Pin TSSOP

## Applications

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

## Description

The FSA203 is a multimedia device that includes a Double-Pole, Double Throw (DPDT) USB / audio multiplexer, a video/microphone switch, and a video amplifier / filter path. The DPDT path combines a low-distortion audio and a USB2.0 switch path.

This configuration enables audio and USB data to share a common connector port. The architecture is designed such that audio signals are allowed to swing below ground, enabling the use of a common USB and headphone connector for personal media players and similar portable peripheral devices.

The FSA203 includes a power-off feature to minimize current consumption when  $V_{av}$  or  $V_{bus}$  is not present. This power-off circuitry is available for the common D+/R, D-/L ports only.

Typical applications involve switching in portables and consumer applications, such as cell phones, digital cameras, and notebooks with hubs or controllers.

### IMPORTANT NOTE:

For additional performance information, please contact [analogswitch@fairchildsemi.com](mailto:analogswitch@fairchildsemi.com).

## Ordering Information

| Part Number | Top Mark | Pb-Free | Packing Description   |
|-------------|----------|---------|---|
| FSA203BQX   | 203      | Yes     | 20-Lead Depopulated very thin Quad Flat-pack No leads (DQFN)<br>JEDEC MO-241, 2.5 x 4.5mm |
| FSA203MTCX  | FSA203   | Yes     | 20-Lead Thin Shrink Small Outline Package (TSSOP)<br>JEDEC MO-153, 4.4mm wide             |

## Block Diagram

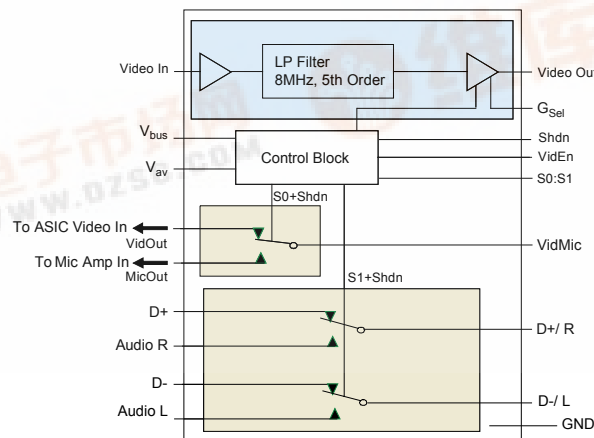



Figure 1. Functional Block Diagram





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