FAIRCHILD SEMICONDUCTOR®

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March 2010

FSA2000
Auto-Selecting HS-USB Switch with Cap-Free Headphone Audio Amplifier

Features

Switch Type	USB + Headphone Amplifier
Switch Mechanism	Auto (USB with V_{BUS})
USB Detection	YES
USB	USB 2.0 High Speed & Full-Speed Compliant
Audio Amplifier	Class AB
Amplifier Output Power	40mW$_{RMS}$ (32Ω)
Amplifier Gain	0dB
THD+N	0.1%
SNR	-90dB
PSRR	-95dB
V_{CC}	2.7 to 4.3V
$I_{CC\ (Audio)}$	3mA
$I_{CC(USB)}$	6µA
Package	16- Lead UMLP 1.80 x 2.60 x 0.55mm, 0.40mm pitch
Ordering Information	FSA2000UMX

Applications

- MP3 Portable Media Players
- Cellular Phones, Smartphones

Typical Application

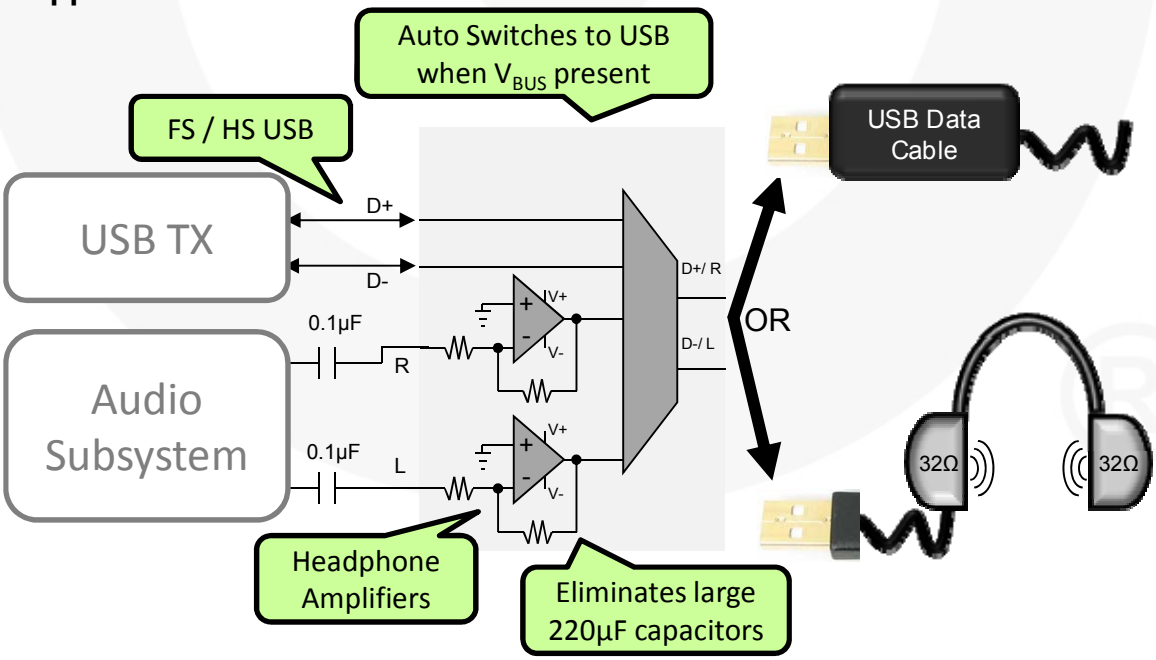

Figure 1. Mobile Phone Example

Description

The FSA2000 is a low-cost integrated HS-USB and audio switch that incorporates an audio headphone amplifier. This solution eliminates many of the discrete parts currently used in stereo headset applications. It provides stereo headphone drivers designed to operate with a ground-centered output signal. This allows for the removal of large and expensive DC blocking capacitors. The headphone drivers are capable of driving up to 40mW$_{RMS}$ per channel.

Related Resources

- *FSA2000 Demonstration Board*
- *FSA2000 Evaluation Board*
- *FDB323 — FSA2000 Demonstration Board User Guide*
- *FEB322 — FSA2000 Evaluation Board User Guide*
- *AN-8032 — Demonstration Board Quick-Start Guide*
- *AN-8031 — Utilizing the FSA2000 MUTE Function to Reduce Audio "Click" and "Pop"*
- *For samples, questions, or board requests; please contact: Analog.Switch@fairchildsemi.com.*

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Physical Dimensions

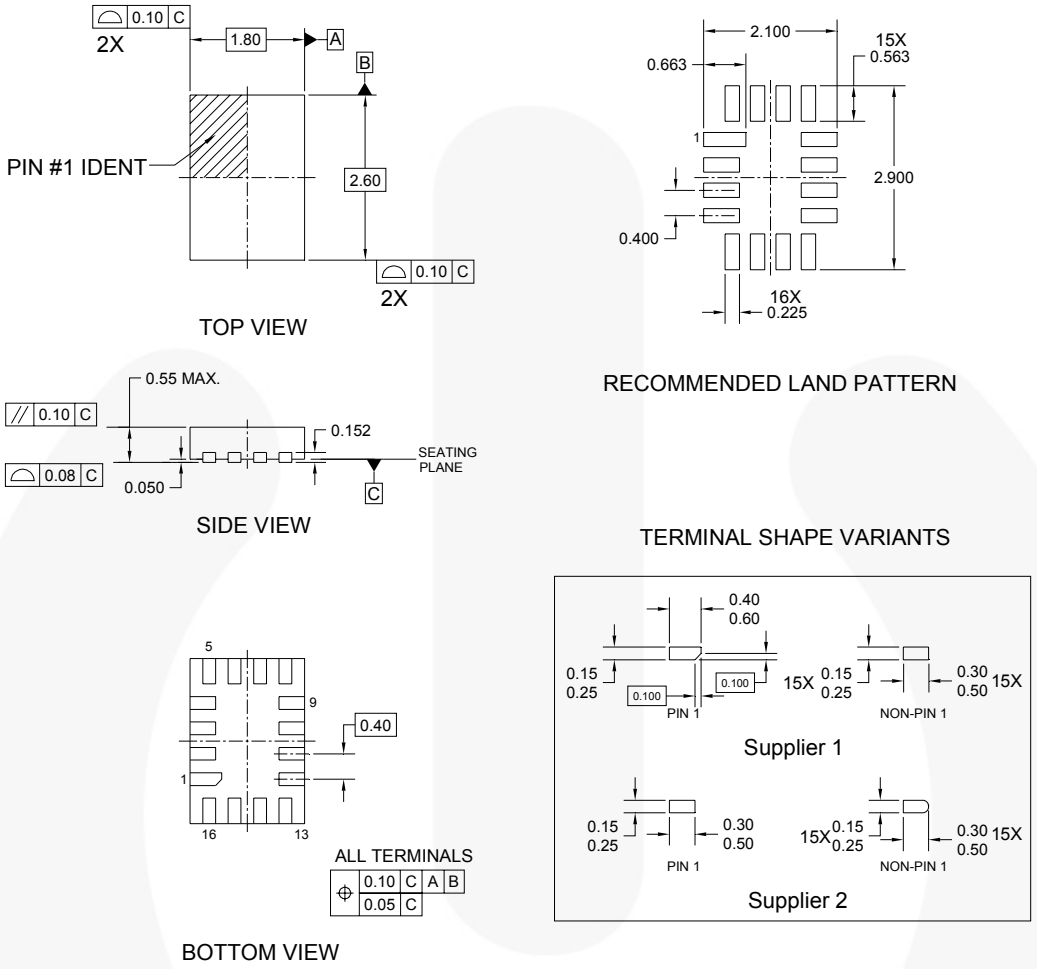

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Figure 7. 16-Pin Ultrathin Molded Leadless Package (UMLP)

Order Number	Operating Temperature Range	Package Description	Packing Method
FSA2000UMX	-40 to 85°C	16-Terminal Ultrathin Molded Leadless Package (UMLP)	Tape & Reel

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Rev. I48

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