

MP3/USB 2.0 High Speed Switch with Negative Signal Handling/Click and Pop Suppression

The Intersil ISL54211 dual SPDT (Single Pole/Double Throw) switches combine low distortion audio and accurate USB 2.0 high speed data (480Mbps) signal switching in the same low voltage device. When operated with a 2.7V to 5.0V single supply these analog switches allow audio signal swings below-ground, allowing the use of a common USB and audio headphone connector in Personal Media Players and other portable battery powered devices.

The ISL54211 logic control pins are 1.8V compatible with a supply voltage of 2.7V to 3.6V, which allows for control via a standard μ controller.

The part has an audio enable control pin (CTRL) to open all in-line switches and activate the audio click and pop circuitry. The high OFF-isolation and special click/pop circuitry of the audio switches eliminates click and pops in the headphones when the audio CODEC drivers are powering up or down or when a headphone is inserted or removed from the headphone jack.

It's available in a tiny 10 Ld 1.8mmx1.4mm ultra-thin μ TQFN package and a 10 Ld 3mmx3mm TDFN package. It operates over a temperature range of -40 to +85°C.

Related Literature

- Technical Brief TB363 "Guidelines for Handling and Processing Moisture Sensitive Surface Mount Devices (SMDs)"

Features

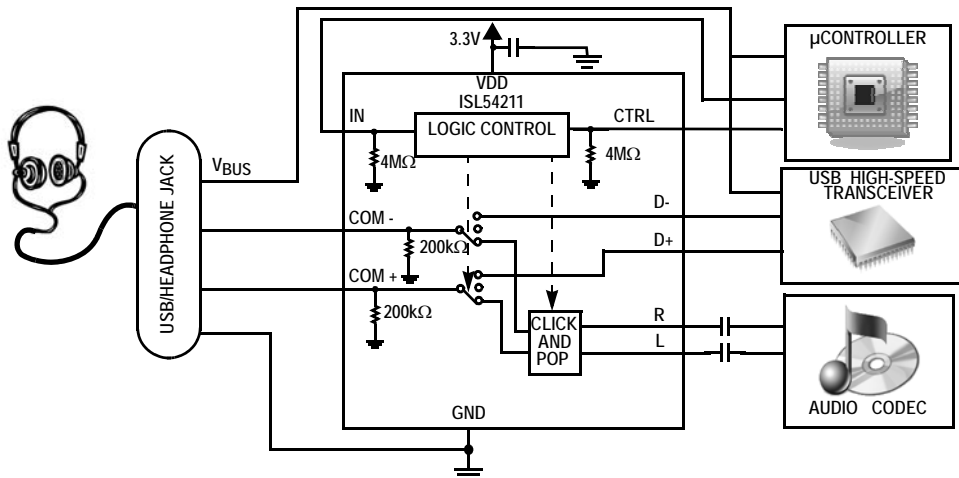
- High Speed (480Mbps) and Full Speed (12Mbps) Signaling Capability per USB 2.0
- Low Distortion Negative Signal Capability
- Clickless/Popless Audio Switches
- Enable Control Pin (CTRL) to Open all Switches
- Low Distortion Headphone Audio Signals
 - THD+N at 1mW into 32 Ω Load 0.014%
- Crosstalk (20Hz to 20kHz). -100dB
- OFF-Isolation (20Hz to 100kHz) 95dB
- Single Supply Operation (V_{DD}) 2.7V to 5.0V
- -3dB Bandwidth USB Switch. 700MHz
- Available in μ TQFN and TDFN Packages
- Compliant with USB 2.0 Short Circuit Requirements Without Additional External Components
- Pb-Free (RoHS Compliant)

Applications

- MP3 and other Personal Media Players
- Cellular/Mobile Phones
- PDA's
- Audio/USB Switching

Get Full Datasheet

Application Block Diagram



All Intersil U.S. products are manufactured, assembled and tested utilizing ISO9000 quality systems.
Intersil Corporation's quality certifications can be viewed at www.intersil.com/design/quality

Intersil products are sold by description only. Intersil Corporation reserves the right to make changes in circuit design, software and/or specifications at any time without notice. Accordingly, the reader is cautioned to verify that data sheets are current before placing orders. Information furnished by Intersil is believed to be accurate and reliable. However, no responsibility is assumed by Intersil or its subsidiaries for its use; nor for any infringements of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of Intersil or its subsidiaries.

For information regarding Intersil Corporation and its products, see www.intersil.com