STEVAL-CCA018V1

Single-supply stereo digital audio line driver based on the TS4657

Data brief

Features

- Power supply range: 3 V to 5.5 V
- Audio line output: 2.2 V_{RMS} for entire V_{CC} range
- 16 to 24-bit audio data format stereo DAC, 32 to 48 kHz sample rate
- I^2S, right or left justified compatible digital audio interface
- 95 dB SNR A-weighted at 48 kHz, V_{CC} = 5 V
- 7.4 mA current consumption at V_{CC} = 3 V, full operation
- Internal negative power supply to ensure ground-referenced, cap-less outputs
- No external capacitor needed for the negative power supply generation
- Integrated structure to suppress pop and click noise
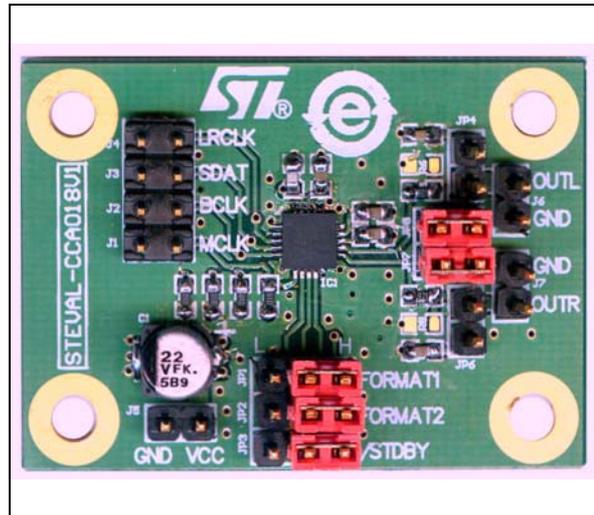- Standby mode active low
- RoHS compliant

The digital audio data can be 16 to 24-bits long and sample rates from 32 to 48 kHz are supported.

The output stage signal is ground-referenced by using an internal self-generated negative power supply, so bulky external output coupling capacitors are not necessary.

Description

The STEVAL-CCA018V1 demonstration board is designed provide a platform for evaluating the performance of the TS4657 stereo digital-to-analog-converter (DAC). The TS4657 integrates a high-performance audio line driver capable of generating a 2.2 V_{RMS} output level from a single 3.0 to 5.5 V supply.

A single supply is sufficient for the digital and analog parts of the circuit, eliminating the need for external regulators.

The TS4657 is a low consumption device, with only 22 mW of power dissipation at 3.0 V power supply during full operation.

A 16-bit multi-bit sigma-delta DAC is used, operating at 256xFs with over sampling digital interpolation filters.

www.st.com

1 Schematic diagram

Figure 1. Circuit schematic
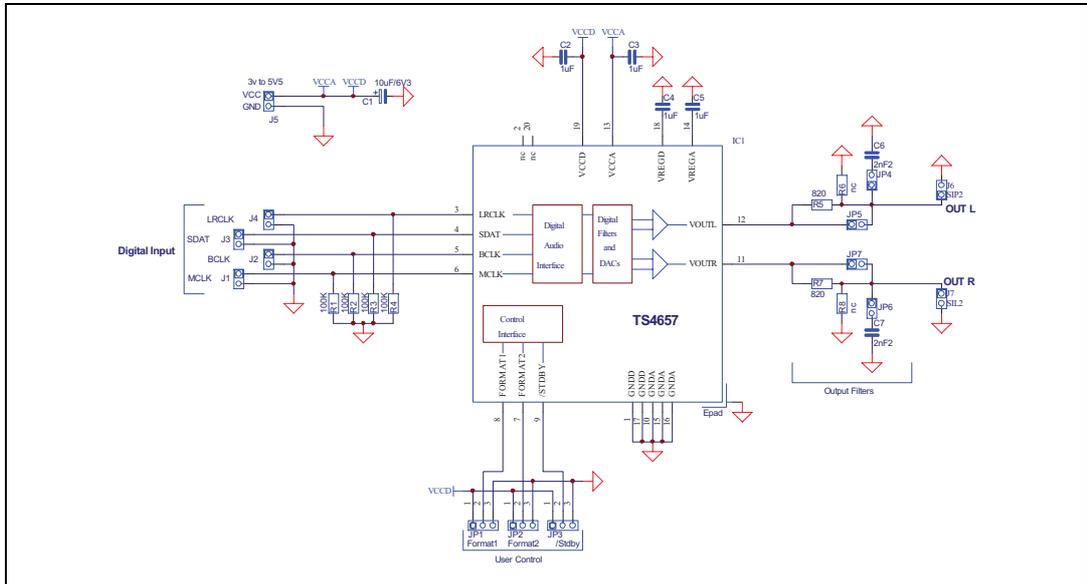
2   Revision history

Table 1.   Document revision history

Date	Revision	Changes
29-Oct-2009	1	Initial release.

Please Read Carefully:

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

UNLESS EXPRESSLY APPROVED IN WRITING BY AN AUTHORIZED ST REPRESENTATIVE, ST PRODUCTS ARE NOT RECOMMENDED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE. ST PRODUCTS WHICH ARE NOT SPECIFIED AS "AUTOMOTIVE GRADE" MAY ONLY BE USED IN AUTOMOTIVE APPLICATIONS AT USER'S OWN RISK.

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Philippines - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Audio IC Development Tools *category:*

Click to view products by STMicroelectronics *manufacturer:*

Other Similar products are found below :

LM4906MMBD LM4935RLEVAL LME49710NABD LME49740MABD LME49740NABD LME49860MABD LME49870MABD EVAL-AD1940AZ EVAL-ADAU1401AEBZ SRC4382EVM-PDK TLV320AIC36EVM-K TPA5052EVM TPA6136A2YFFEVM LM4562HABD LM4906LDBD LM4923LQBD LM4992SDBD LME49710MABD LME49713MABD LME49860NABD MAX98300EVKIT+WLP MAX9738EVKIT+ MAX98358EVSYS#WLP MAX9723DEVKIT+ EVAL-ADAV803EBZ LM4809MBD LM4674TLBD CDBWM8725-M-1 CDBWM8533-M-1 EV_ICS-40740-FX SDCK3 PIM524 MAX9723DEVCMODU+ DEV-17737 MAX9850EVCMOD2# EVALAHNBIM69D130V01TOBO1 1063 TAS5756MDCAEVM TLV320ADC3101EVM-K TLV320AIC3007EVM-K TLV320AIC3105EVM-K TLV320AIC3253EVM-K TPA2016D2EVM TPA2035D1EVM TPA2051D3YFFEVM TPA3107D2EVM TPA6120A2EVM TPA6132A2EVM2 MIKROE-2454 1381