



STEVAL-CCA002V1

Low voltage differential audio power amplifier based on the TS4994

Data Brief

Features

- TS4994 low voltage differential audio power amplifier with Programmable standby mode
- Operates from $V_{CC}=2.5\text{ V}$ to 5.5 V
- 1 W output power @ $V_{CC}=5\text{ V}$, THD+N=1%, F=1 kHz, with 8 W load
- Ultra low power consumption in standby mode (10 nA)
- 100 dB PSRR @ 217 Hz in grounded mode ($A_v=1\text{ V/V}$)
- Near zero pop & click
- Ultra low distortion (0.1%)
- Module gain set at 1V/V
- Thermal and short-circuit protection

Description

This evaluation board is designed with the TS4994 low power differential audio amplifier. The micro-package DFN10 (dual flat non-leaded 10 pins) allows space saving and good thermal dissipation. The differential gain is set at 1 V/V and can be adapted as necessary through a modification of the R1 to R4 values.

Equation 1

$$A_v = \frac{R_2}{R_1} = \frac{R_4}{R_3} \text{ with } R_2 = R_4 \text{ with } R_1 = R_3$$

On the board, you can set the Cn3 and Cn4 jumpers can be set to modify the input configuration from capacitor coupled to common mode feedback. In capacitor coupled configuration, the -3dB cut-off frequency in Hz is:

Equation 2

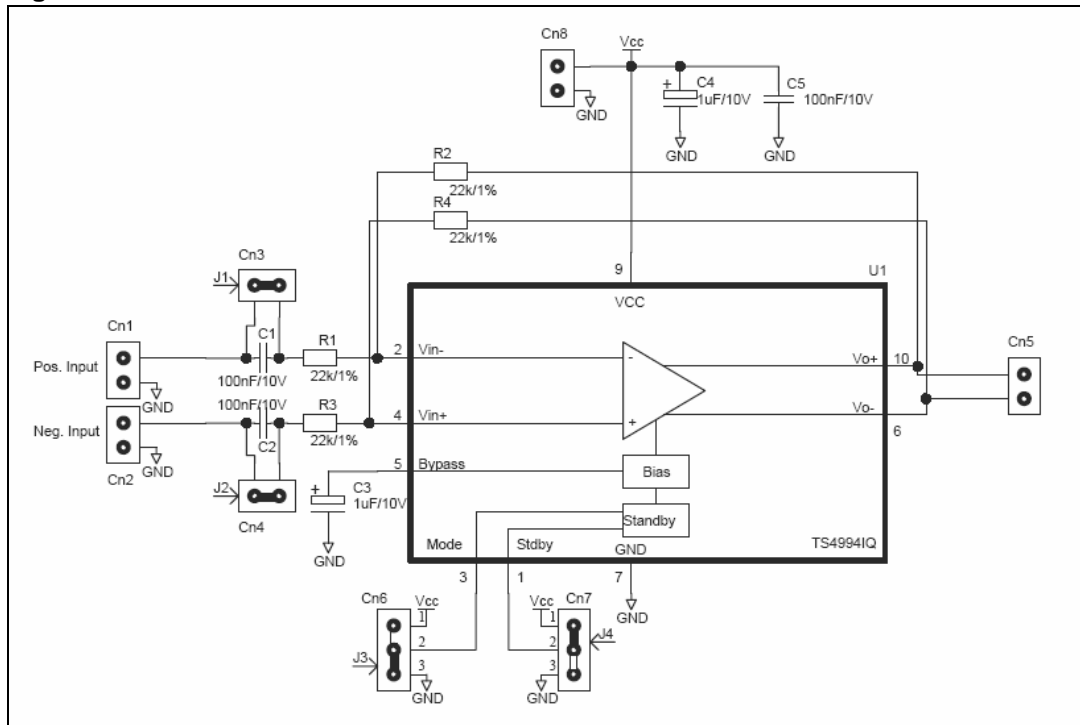
$$\frac{1}{(6.28 \cdot R_1 \cdot C_1)} = \frac{1}{(6.28 \cdot R_3 \cdot C_2)}$$

with R in ohms, C in farads and $C_1=C_2$. For more detailed information about component calculation, refer to the TS4994 datasheet.



1 Board schematic

Figure 1. Schematic



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
19-Dec-2007	1	Initial release

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