



# 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  $5.5\text{ V}$
- $1\text{ W}$  output power @  $V_{CC}=5\text{ V}$ , THD+N=1%,  $F=1\text{ kHz}$ , with  $8\text{ W}$  load
- Ultra low power consumption in standby mode ( $10\text{ nA}$ )
- $100\text{ dB}$  PSRR @  $217\text{ Hz}$  in grounded mode ( $A_v=1\text{ V/V}$ )
- Near zero pop & click
- Ultra low distortion (0.1%)
- Module gain set at  $1\text{ V/V}$
- 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  $1\text{ V/V}$  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  $-3\text{dB}$  cut-off frequency in Hz is:

#### Equation 2

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

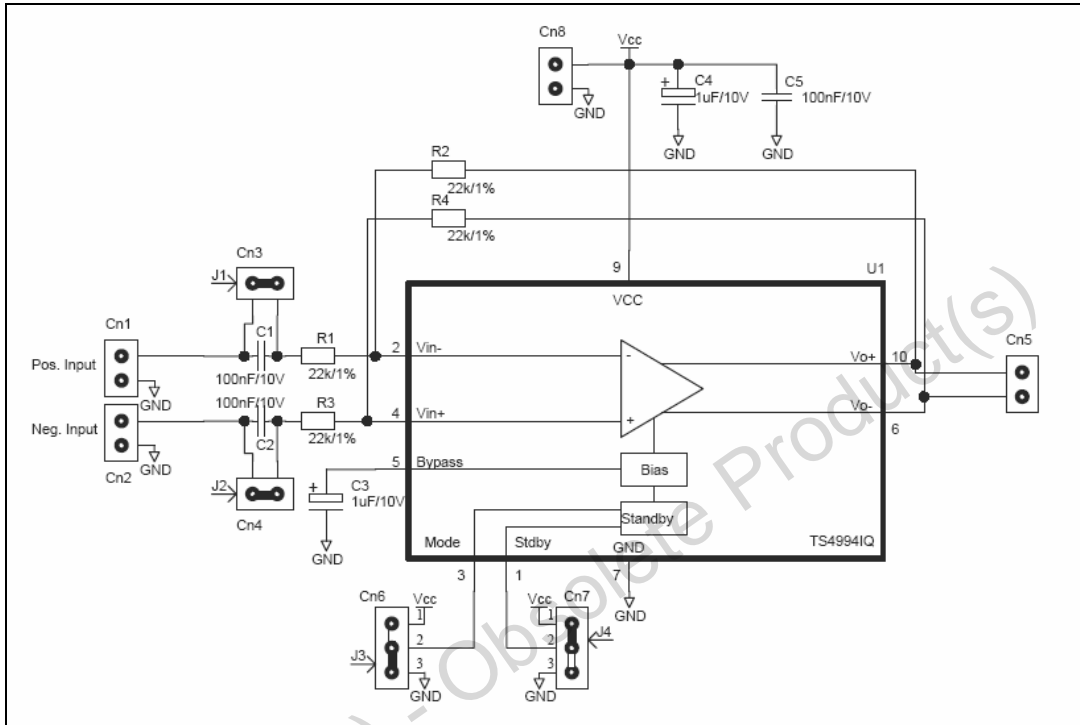
with  $R$  in ohms,  $C$  in farads and  $C_1=C_2$ . For more detailed information about component calculation, refer to the TS4994 datasheet.



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# 1 Board schematic

Figure 1. Schematic



## 2 Revision history

Table 1. Document revision history

Date	Revision	Changes
19-Dec-2007	1	Initial release

Obsolete Product(s) - Obsolete Product(s)

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