

TDA8944J

2 x 7 W stereo Bridge Tied Load (BTL) audio amplifier

Rev. 02 — 14 February 2000

Product specification

1. General description

The TDA8944J is a dual-channel audio power amplifier with an output power of $2 \times 7 \text{ W}$ at an 8Ω load and a 12 V supply. The circuit contains two Bridge Tied Load (BTL) amplifiers with an all-NPN output stage and standby/mute logic. The TDA8944J comes in a 17-pin DIL-bent-SIL (DBS) power package. The TDA8944J is printed-circuit board (PCB) compatible with all other types in the TDA894x family. One PCB footprint accommodates both the mono and the stereo products.

2. Features

- Few external components
- Fixed gain
- Standby and mute mode
- No on/off switching plops
- Low standby current
- High supply voltage ripple rejection
- Outputs short-circuit protected to ground, supply and across the load
- Thermally protected
- Printed-circuit board compatible.

3. Applications

- Mains fed applications (e.g. TV sound)
- PC audio
- Portable audio.

4. Quick reference data

Table 1: Quick reference data

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|-----------|--------------------------|---------------------------------------|-----|-----|-----|---------------|
| V_{CC} | supply voltage | | 6 | 12 | 18 | V |
| I_q | quiescent supply current | $V_{CC} = 12 \text{ V}; R_L = \infty$ | - | 24 | 36 | mA |
| I_{stb} | standby supply current | | - | - | 10 | μA |



Table 1: Quick reference data...continued

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|--------|---------------------------------|--|-----|------|-----|------|
| P_o | output power | THD = 10%; $R_L = 8 \Omega$; $V_{CC} = 12 V$ | 6 | 7 | - | W |
| THD | total harmonic distortion | $P_o = 1 W$ | - | 0.03 | 0.1 | % |
| G_v | voltage gain | | 31 | 32 | 33 | dB |
| SVRR | supply voltage ripple rejection | | 50 | 65 | - | dB |

5. Ordering information

Table 2: Ordering information

| Type number | Package | | Version |
|-------------|---------|---|----------|
| | Name | Description | |
| TDA8944J | DBS17P | plastic DIL-bent-SIL power package; 17 leads (lead length 12 mm) | SOT243-1 |

6. Block diagram

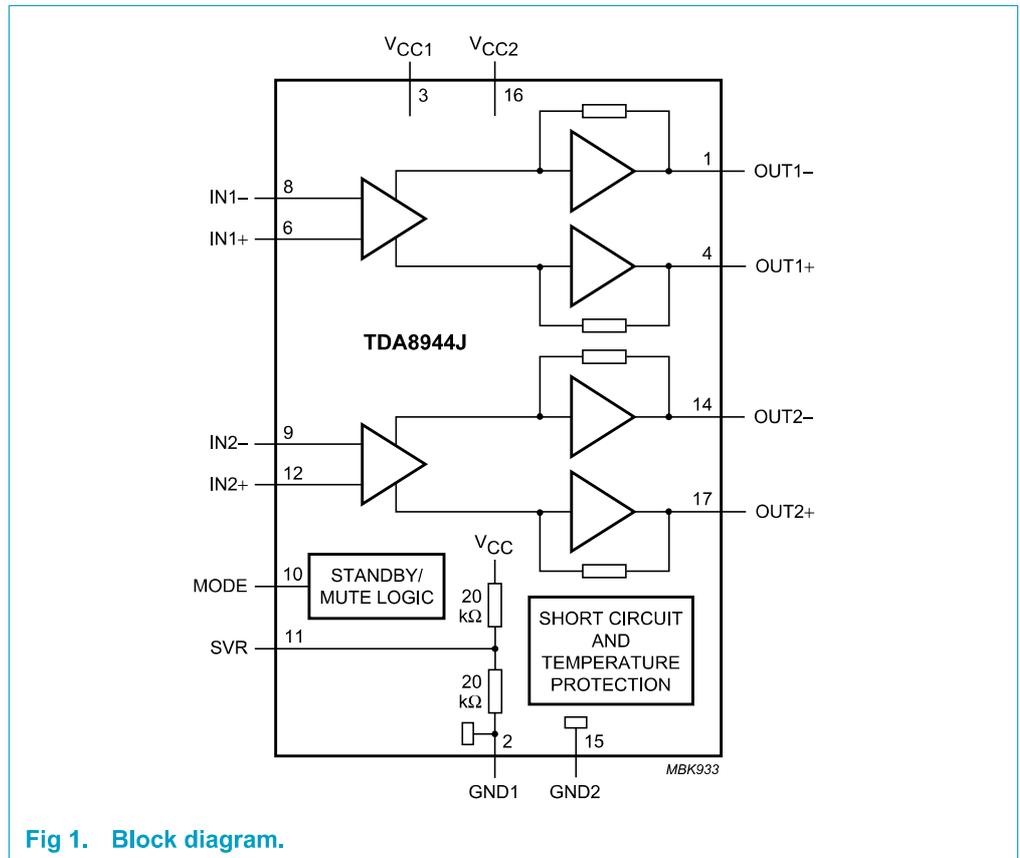


Fig 1. Block diagram.

7. Pinning information

7.1 Pinning

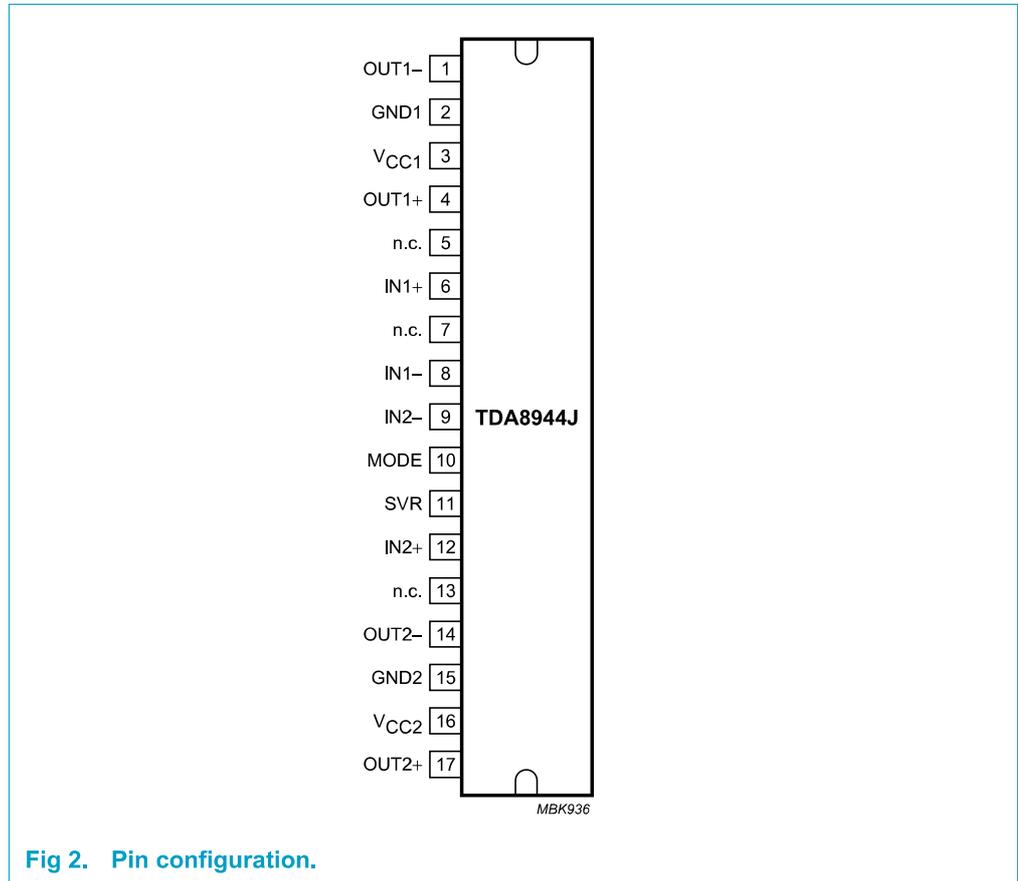


Fig 2. Pin configuration.

7.2 Pin description

Table 3: Pin description

| Symbol | Pin | Description |
|------------------|-----|---|
| OUT1- | 1 | negative loudspeaker terminal 1 |
| GND1 | 2 | ground channel 1 |
| V _{CC1} | 3 | supply voltage channel 1 |
| OUT1+ | 4 | positive loudspeaker terminal 1 |
| n.c. | 5 | not connected |
| IN1+ | 6 | positive input 1 |
| n.c. | 7 | not connected |
| IN1- | 8 | negative input 1 |
| IN2- | 9 | negative input 2 |
| MODE | 10 | mode selection input (standby, mute, operating) |
| SVR | 11 | half supply voltage decoupling (ripple rejection) |
| IN2+ | 12 | positive input 2 |