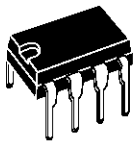
SGS-THOMSON MICROELECTRONICS

# TDA7235

## 1.6W AUDIO AMPLIFIER

- OPERATING VOLTAGE 1.8 TO 24V
- LOW QUIESCENT CURRENT
- HIGH POWER CAPABILITY
- LOW CROSSOVER DISTORTION
- SOFT CLIPPING

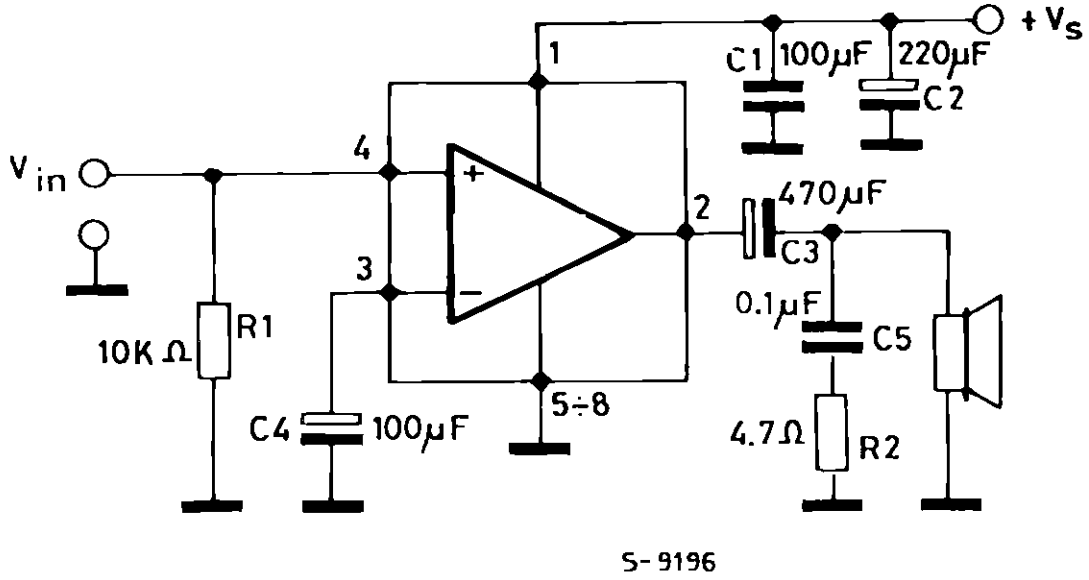


**Minidip (4 +4)**

### DESCRIPTION

The TDA7235 is a monolithic integrated circuit in 4 +4 lead Minidip package, intended for use as class AB power amplifier with wide range of supply voltage in portable radios, cassette recorders and players, TV sets, etc..

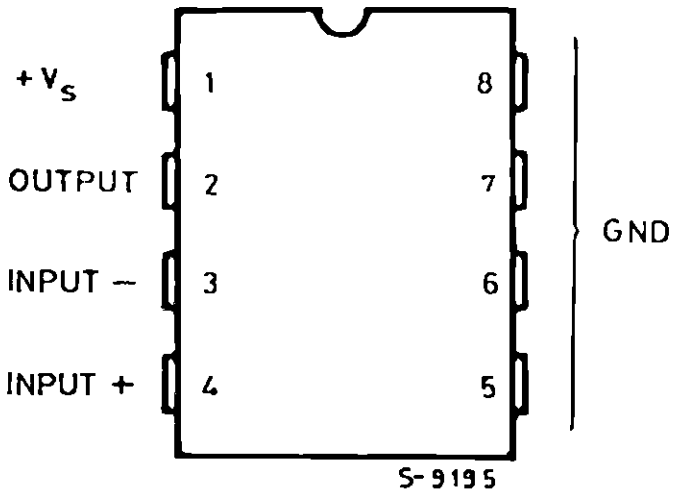
### TEST AND APPLICATION CIRCUIT



## ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_S$ | Supply Voltage | 28 | V |
| $I_O$ | Output Peak Current | 1 | A |
| $P_{tot}$ | Total Power Dissipation $T_{amb}$ = 50°C<br>$T_{case}$ = 70°C | 1.25<br>4 | W<br>W |
| $T_{stg}$, $T_j$ | Storage and Junction Temperature | -40 to150 | °C |

## PIN CONNECTION (Top view)




## THERMAL DATA

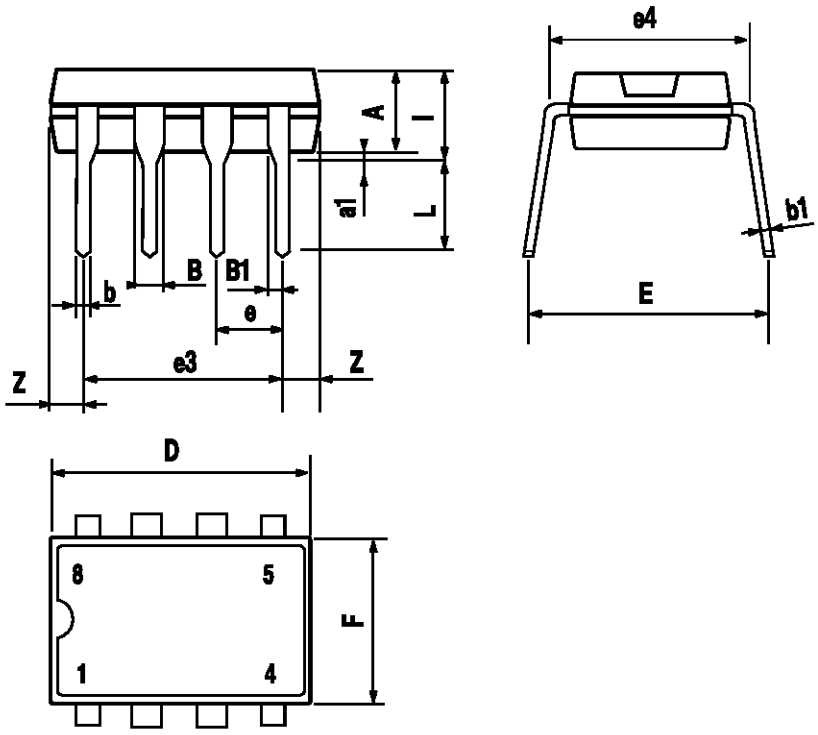
| Symbol | Description | | Value | Unit |
|---|---|---|---|---|
| $R_{th\ j\text{-}amb}$ | Thermal Resistance Junction-ambient | max. | 80 | °C/W |
| $R_{th\ j\text{-}case}$ | Thermal Resistance Junction-pins | max. | 15 | °C/W |

**ELECTRICAL CHARACTERISTICS** ($V_S$ = 12V, $T_{amb}$ = 25°C, f = 1KHz, unless otherwise specified.)

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| $V_S$ | Supply Voltage | | 1.8 | | 24 | V |
| $V_O$ | Quiescent Output Voltage | $V_S$ = 9V<br>$V_S$ = 12V | | 4<br>5.5 | | V<br>V |
| $I_d$ | Quiescent Drain Current | | | 4 | 10 | mA |
| $I_b$ | Input Bias Current | | | | | |
| $P_O$ | Output Power | d = 10%<br>$V_S$ = 9V $R_L$ = 4Ω<br>$V_S$ = 12V $R_L$ = 8Ω<br>$V_S$ = 15V $R_L$ = 16Ω<br>$V_S$ = 20V $R_L$ = 32Ω | | <br>1.6<br>1.8<br>1.8<br>1.6 | | <br>W<br>W<br>W<br>W |
| d | Distortion | $P_O$ = 0.5W $R_L$ = 8Ω | | 0.3 | 1 | % |
| $G_V$ | Closed Loop Voltage Gain | | | 38 | | dB |
| $R_{in}$ | Input Resistance | | 100 | | | KΩ |
| $e_N$ | Total Input Noise | $R_S$ = 10KΩ<br>b = Curve A<br>B = 22Hz to 22KHz | | <br>2<br>3 | | <br>μV<br>μV |
| SVR | Supply Voltage Rejection | f = 100Hz $R_g$ = 10KΩ | 24 | 33 | | dB |

## MINIDIP PACKAGE MECHANICAL DATA

| DIM. | mm | | | inch | | |
|---|---|---|---|---|---|---|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | | 3.32 | | | 0.131 | |
| a1 | 0.51 | | | 0.020 | | |
| B | 1.15 | | 1.65 | 0.045 | | 0.065 |
| b | 0.356 | | 0.55 | 0.014 | | 0.022 |
| b1 | 0.204 | | 0.304 | 0.008 | | 0.012 |
| D | | | 10.92 | | | 0.430 |
| E | 7.95 | | 9.75 | 0.313 | | 0.384 |
| e | | 2.54 | | | 0.100 | |
| e3 | | 7.62 | | | 0.300 | |
| e4 | | 7.62 | | | 0.300 | |
| F | | | 6.6 | | | 0.260 |
| I | | | 5.08 | | | 0.200 |
| L | 3.18 | | 3.81 | 0.125 | | 0.150 |
| Z | | | 1.52 | | | 0.060 |



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