

HT82V732 60mA Audio Power Amp

Features

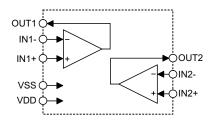
- Single power supply voltage: 5V
- Low power consumption
- Low distortion
- Low clock Jitter sensitivity

- High SNR ratio range
- Wide temperature range
- 8-pin SOP package

General Description

HT82V732 is a class AB stereo earphone driver designed for portable digital audio application. It provides 8-SOP package. Pin assignments and application circuit is compatible with TDA1308 which is suitable for effective low cost applications. HT82V732 is ideal for portable digital audio equipment, CD ROM/DVD ROM and DISCMAN system.

Block Diagram



Pin Assignment

| 1 | | | 1 | |
|----------------------|---|---|-------|--|
| OUT1 | 1 | 8 | | |
| IN1- 🗆 | 2 | 7 | | |
| IN1+ 🗆 | 3 | 6 | □IN2- | |
| VSS 🗆 | 4 | 5 | □IN2+ | |
| HT82V732 -8 SOP-A | | | | |

Pin Description

| Pin No. | Pin Name | I/O | Description | |
|---------|----------|-----|-------------------------------|--|
| 1 | OUT1 | 0 | Output | |
| 2 | IN1- | Ι | nverting input | |
| 3 | IN1+ | I | Non-inverting input | |
| 4 | VSS | | Negative power supply, ground | |
| 5 | IN2+ | Ι | Non-inverting input | |
| 6 | IN2- | Ι | Inverting input | |
| 7 | OUT2 | 0 | Output | |
| 8 | VDD | | Positive power supply | |



Electrical Characteristics

 V_{SS} =0V; f_i=1kHz; R_L=32 Ω

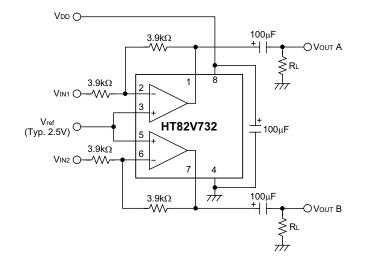
| Symbol | Parameter | Test Conditions | | Min. | T | Max. | Unit |
|--------------------|--------------------------------|--------------------------|--|------|------|------|---------------|
| Symbol | Farameter | \mathbf{V}_{DD} | Conditions | | Тур. | Wax. | Unit |
| Supplies | | | | | _ | | _ |
| | Supply Voltage | | | _ | | _ | |
| V _{DD} | Single | 5V | _ | 3.0 | 5.0 | 6.0 | V |
| | Dual | | | 1.5 | 2.5 | 3 | |
| V _{SS} | Negative Supply Voltage | 5V | _ | -1.5 | -2.5 | -3 | V |
| I _{DD} | Supply Current | 5V | No load | _ | 3 | 5 | mA |
| P _{tot} | Total Power Dissipation | 5V | No load | _ | 15 | 25 | mW |
| DC Charac | teristics | | | | L. | | |
| V _{I(OS)} | Input Offset Voltage | 5V | _ | | 10 | _ | mV |
| I _{bias} | Input Bias Current | 5V | | _ | 10 | _ | pА |
| V _{CM} | Common Mode Voltage | 5V | | 0 | | 3.5 | V |
| G _V | Open-loop Voltage Gain | 5V | $R_L=5k\Omega$ | | 70 | | dB |
| lo | Maximum Output Current | 5V | (THD+N)/S<0.1% | | 60 | | mA |
| R _O | Output Resistance | 5V | _ | | 0.25 | | Ω |
| | | | R _L =32Ω * | 0.75 | | 4.25 | 4.25 3.5 V |
| Vo | Output Voltage swing | 5V | R _L =16Ω * | 1.5 | _ | 3.5 | |
| | | | $R_L=5k\Omega$ * | 0.1 | | 4.9 | 1 |
| PSRR | Power Supply Rejection Ratio | 5V | F _i =100Hz; V _{ripple(p-p)} =100mV | _ | 90 | _ | dB |
| α _{CS} | Channel Separation | 5V | _ | _ | 70 | _ | dB |
| CL | Load Capacitance | 5V | _ | | _ | 200 | pF |
| AC Charac | teristics | | | | | | |
| | Total Harmonic Distortion Plus | | | _ | -70 | _ | dB |
| (THD+N)/S | Noise-to-signal Ratio | 5V | V _{O(P-P)} =3.5V ** | _ | 0.03 | _ | % |
| S/N | Signal-to-noise Ratio | 5V | | _ | 100 | _ | dB |
| f _G | Unity Gain Frequency | 5V | Open-loop; R _L =5kΩ | _ | 5.5 | _ | MHz |
| Po | Maximum Output Power | 5V | (THD+N)/S<0.1% | _ | 60 | _ | mW |
| Ci | Input Capacitance | 5V | _ | | 3 | | pF |
| SR | Slew Rate | 5V | Unity gain inverting | _ | 5 | _ | V/μs |
| В | Power Bandwidth | 5V | Unity gain inverting | | 20 | | kHz |

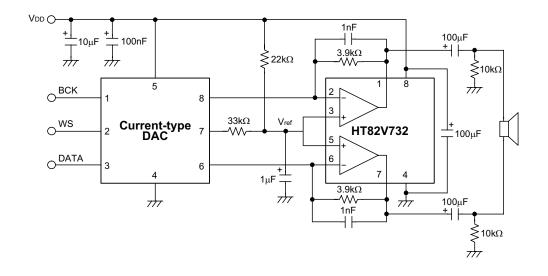
Note: "*" Values are proportional to $V_{\text{DD}}\text{;}$ (THD+N)/S<0.1%

"**" V_{DD} =5V, $V_{O(P-P)}$ =3.5V (at odB)



Application Circuits

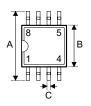






Package Information

8-pin SOP (150mil) outline dimensions





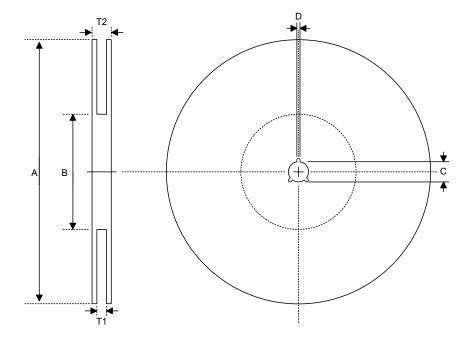


| Symbol | Dimensions in mil | | | | |
|--------|-------------------|------|------|--|--|
| Symbol | Min. | Nom. | Max. | | |
| A | 228 | | 244 | | |
| В | 149 | _ | 157 | | |
| С | 14 | _ | 20 | | |
| C' | 189 | _ | 197 | | |
| D | 53 | _ | 69 | | |
| E | _ | 50 | _ | | |
| F | 4 | | 10 | | |
| G | 22 | _ | 28 | | |
| н | 4 | _ | 12 | | |
| α | 0° | _ | 10° | | |



Product Tape and Reel Specifications

Reel dimensions

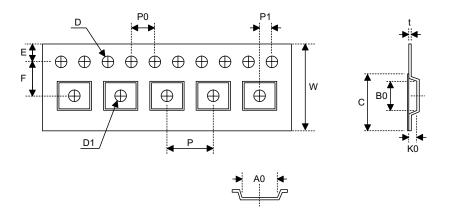


SOP 8N

| Symbol | Description | Dimensions in mm |
|--------|-----------------------|------------------|
| А | Reel Outer Diameter | 330±1.0 |
| В | Reel Inner Diameter | 62±1.5 |
| С | Spindle Hole Diameter | 13.0+0.5 _0.2 |
| D | Key Slit Width | 2.0±0.15 |
| T1 | Space Between Flange | 12.8+0.3 0.2 |
| T2 | Reel Thickness | 18.2±0.2 |



Carrier tape dimensions



SOP 8N

| Symbol | Description | Dimensions in mm |
|--------|--|------------------|
| W | Carrier Tape Width | 12.0+0.3 _0.1 |
| Р | Cavity Pitch | 8.0±0.1 |
| E | Perforation Position | 1.75±0.1 |
| F | Cavity to Perforation (Width Direction) | 5.5±0.1 |
| D | Perforation Diameter | 1.55±0.1 |
| D1 | Cavity Hole Diameter | 1.5+0.25 |
| P0 | Perforation Pitch | 4.0±0.1 |
| P1 | Cavity to Perforation (Length Direction) | 2.0±0.1 |
| A0 | Cavity Length | 6.4±0.1 |
| B0 | Cavity Width | 5.20±0.1 |
| K0 | Cavity Depth | 2.1±0.1 |
| t | Carrier Tape Thickness | 0.3±0.05 |
| С | Cover Tape Width | 9.3 |



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