Princeton Technology Corp.
Tel : 886-2-29162151
Fax: 886-2-29174598
URL: *http://www.princeton.com.tw*

Headphone Driver **PT2308**

# DESCRIPTION

PT2308 is a Class AB stereo headphone driver chip utilizing CMOS Technology specially designed for portable digital audio applications. It is housed in an 8-pin DIP or SO package and is functionally compatible with TDA1308. Pin assignments and application circuit are optimized for lower cost effectiveness and easy PCB Layout

# FEATURES

- CMOS Technology
- Low Power Consumption
- Wide Temperature Range
- Excellent Power Supply Ripple Rejection
- High Signal-to-Noise Ratio, S/N=110dB
- Low Harmonic Distortion, THD= 0.001%
- Large Output Voltage Swing

# APPLICATIONS

- Portable Digital Audio
- Hi-fi Audio System
- Walkman
- CD-ROM

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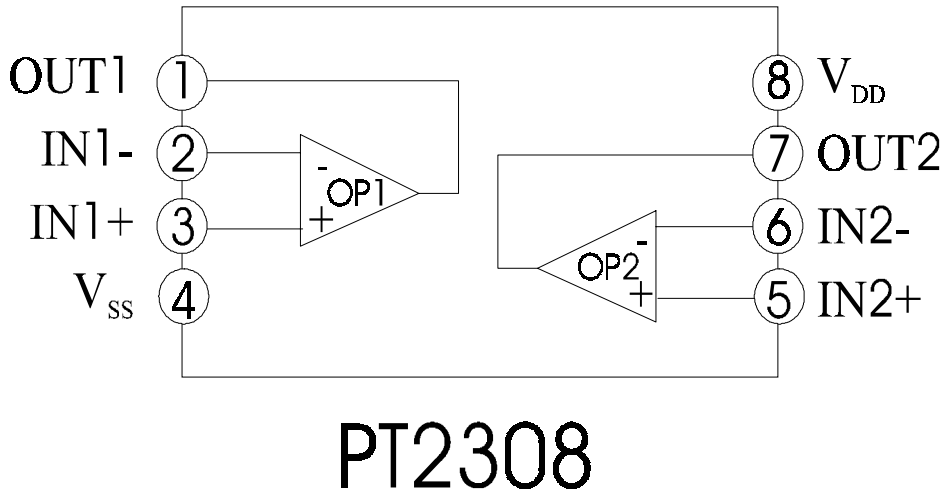
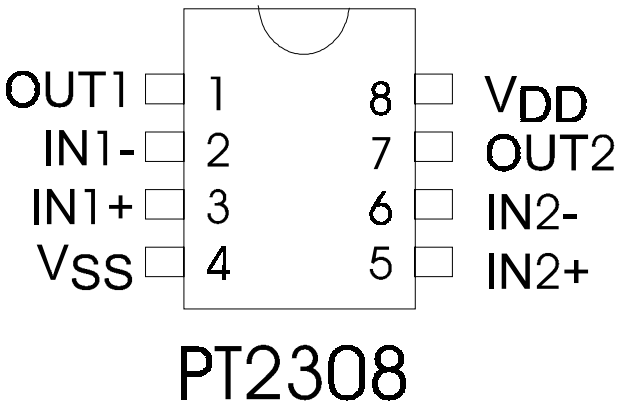
## BLOCK DIAGRAM




## PIN CONFIGURATION



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# PIN DESCRIPTION

| Symbol | I/O | Description | Pin No. |
|---|---|---|---|
| OUT1 | O | Output Pin 1 | 1 |
| IN1- | I | Inverting Input Pin 1 | 2 |
| IN1+ | I | Non-Inverting Input Pin 1 | 3 |
| $V_{SS}$ | - | Negative Power Supply | 4 |
| IN2+ | I | Non-Inverting Input Pin 2 | 5 |
| IN2- | I | Inverting Input Pin2 | 6 |
| OUT2 | O | Output Pin 2 | 7 |
| $V_{DD}$ | - | Positive Power Supply | 8 |

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# ELECTRICAL PARAMETERS

(Unless otherwise stated, $V_{DD}$=5V, Vss=0V, Tamb=25°C, fin=1 KHz, $R_L$=32 Ohms)

| Symbol | Parameter | Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| VDD | Single Supply Voltage | | 3.0 | 5.0 | 7.0 | V |
| | Dual Supply Voltage | | 1.5 | 2.5 | 3.5 | V |
| VSS | Negative Power Supply | | -1.5 | -2.5 | -3.5 | V |
| IDD | Supply Current | No Load | - | 7.0 | - | mA |
| Ptot | Total Power Dissipation | No Load | - | 35 | - | mW |
| Po | Maximum Output Power | | - | 60 | - | mW |
| THD | Total Harmonic Distortion | Vo(p-p)=3.5V | - | 0.03 | 0.06 | % |
| | | Vo(p-p)=3.5V<br>$R_L$=5 K Ohms | - | 0.001 | - | |
| S/N | Signal-to-Noise Ratio | | 100 | 110 | - | dB |
| $\alpha_{CS}$ | Channel Separation | | - | 70 | - | dB |
| | | $R_L$=5 K Ohms | - | 105 | - | |
| PSRR | Power Supply Ripple Rejection | fin=100Hz<br>Vripple(p-p)=100mV | - | 90 | - | dB |

# ABSOLUTE MAXIMUM RATING

| Symbol | Parameter | Rating | Unit |
|---|---|---|---|
| $V_{DD}$ | Supply Voltage | 8 | V |
| Tamb | Operating Ambient Temperature | -40 to +85 | ℃ |
| Tstg | Storage Temperature | -65 to +150 | ℃ |

# APPLICATION CIRCUIT