# 160mW免输出耦合电容的立体声耳机放大器

## 160mW CAP FREE STEREO HEADPHONE AMPLIFIER

## ■ FEATURES

・Direct Drive Outputs Eliminate DC-Blocking Capacitors, Save Space

・Excellent Bass Fidelity

・Shutdown and Startup without any Click-Pop Noise, ±50uV (typical) Vos

・Exceptional Low THD+N: 0.002% Minimum

・Absolutely Low Noise Performance $V_N$: 8.5μV

・Differential or Single-Ended Input

・Wide 2.5V to 6V Operating Range

・Output Power: 80mW (VDD=3.6V, $f_{IN}$ = 1kHz, RL=32Ω, THD+N=1%)

160mW (PVDD = 5V, $f_{IN}$ = 1kHz, RL=32Ω, THD+N=0.1%)

・Pb Free Packages, QFN16L 3mm*3mm, Extremely Simple BOM Needed

・输出无需隔直流电容

・卓越的低音效果

・无咔嗒/噼噗声，±50uV (typical) Vos

・低THD+N: 最低0.002%

・低噪声, $V_N$: 8.5μV

・支持单端输入和全差分输入

・2.5V至6V较宽的电源工作范围

・输出功率: 80mW ($f_{IN}$ = 1kHz, $V_{DD}$=3.6V, $R_L$=32Ω, THD+N=1%)

160mW (PVDD = 5V, $f_{IN}$ = 1kHz, RL=32Ω, THD+N=0.1%)

・无铅封装, QFN16L 3mm*3mm

## ■ APPLICATIONS

・Headphones・Simple Multimedia Interfaces

・Set-Top Boxes ・Blue-ray and DVD Players

・LCD Televisions・Prosumer Audio Devices

・耳机 ・多媒体音频接口

・机顶盒 ・蓝光/DVD播放器

・LCD电视 ・音频消费电子产品

## ■ DESCRIPTION

The HT97226 is a differential input Direct Drive headphone amplifier, which can also drive single-ended input signal. It is capable of being driven with 160mW into 32Ω with a 5V supply. The IC is offered with an externally set gain through external resistors. The external gain setting nodes can also be used to configure filters for set-top box applications. The IC has exceptional THD+N over the full audio bandwidth.

An on-chip charge pump inverts the power-supply input, creating a negative rail. The output stage of the amplifier is powered between the positive input supply and the output of the charge pump. The bipolar supplies bias the output about ground, eliminating the need for large, distortion-introducing output coupling capacitors. The IC shutdowns and startups without click-pop noise.

The IC is available in a 3mm x 3mm, 16-pin QFN-PP and is specified over the extended -40°C to +85°C temperature range.

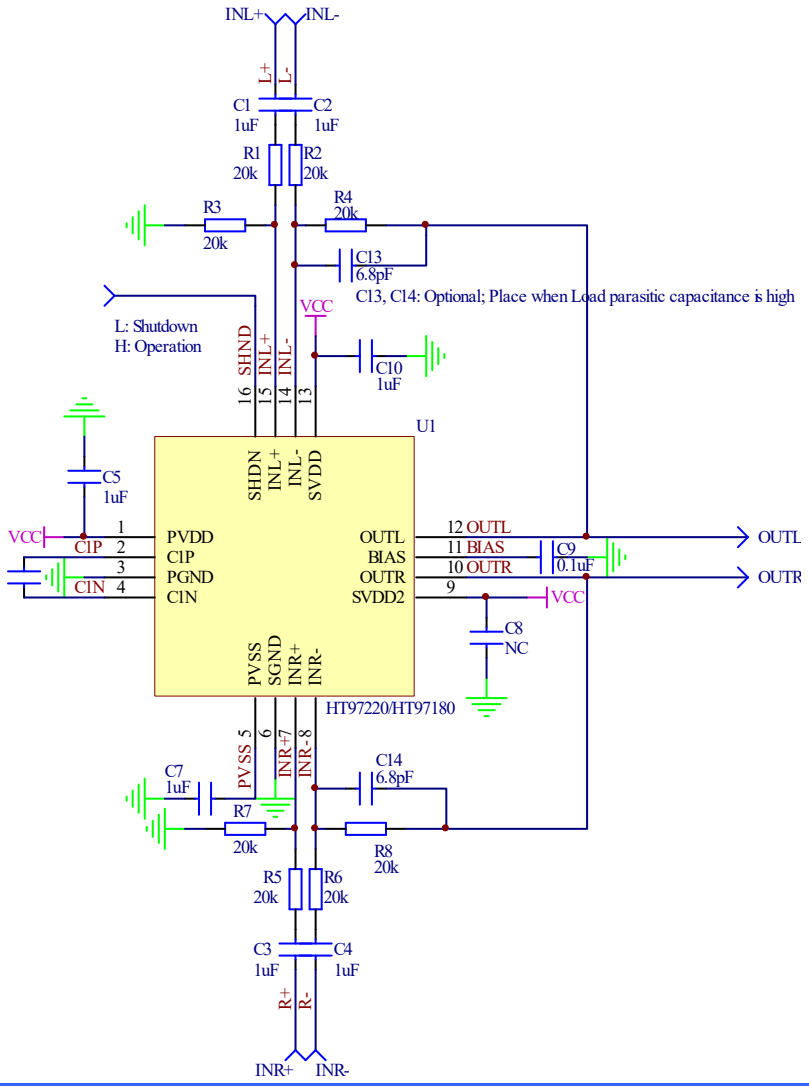
HT97226是一款差分输入/单端输入、可直接输出驱动的耳机放大器。5V供电时，器件可为32ohm耳机提供180mW的功率。器件可通过外部电阻调节增益。器件在音频范围内具有卓越的THD+N表现。

器件内部集成电荷泵产生负电压，器件输出级由输入正电压和该负电压驱动，使得输出偏置在零电位，省去了大尺寸、容易引入失真的输出耦合电容。

器件使能开关时，没有咔嗒/噼噗声。

器件封装为3mm x 3mm, 16-pin QFN-PP，能在-40°C 至 +85°C 温度范围内工作

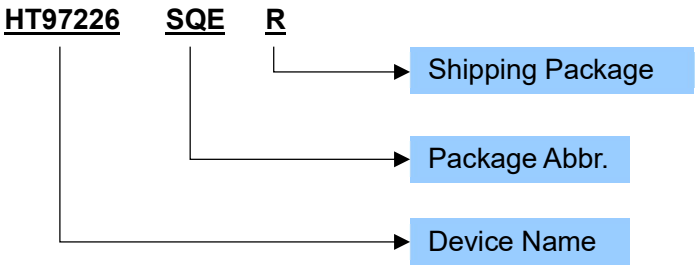
## ■ TYPICAL APPLICATION



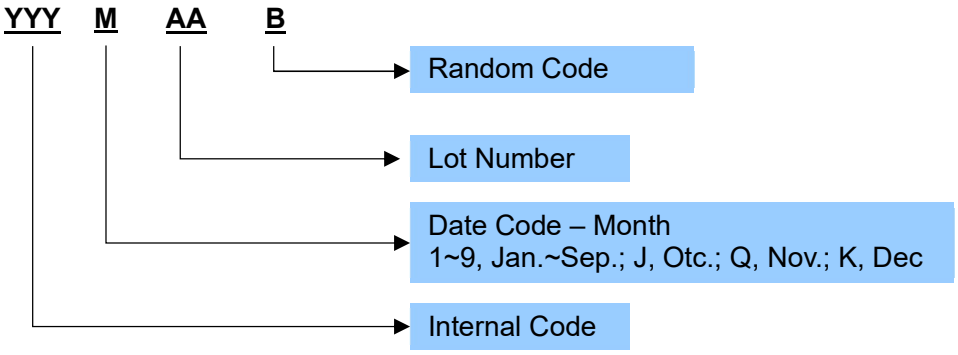
## ■ ORDERING INFORMATION

| Part Number | Package Type | Package Abbr. | Marking | Shipping Package / MOQ |
|---|---|---|---|---|
| HT97226SQER | QFN3×3-16L | SQE | HT97226<br>YYYMAAB[1] | Tape and Reel (R) /<br>5000pcs |

### Part Number

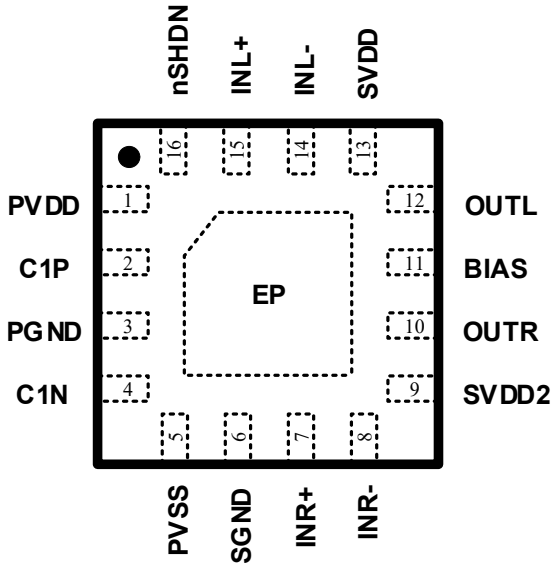



### Production Tracking Code




[1] YYYMAAB is production tracking code

## ■ TERMINAL CONFIGURATION




Top View

## ■ TERMINAL FUNCTION

| PIN | NAME | I/O[1] | Description |
|---|---|---|---|
| 1 | PVDD | P | Charge-Pump Power-Supply Input. Bypass to PGND with 1μF.<br>电荷泵电源输入端，接1uF滤波电容到PGND |
| 2 | C1P | P | Positive Flying Capacitor Connection. Connect a 1μF capacitor between C1P and C1N.<br>飞电容正端，在C1P和C1N间接1uF电容 |
| 3 | PGND | G | Power Ground. Connect PGND and SGND together at the system ground plane. |
| 4 | C1N | P | Negative Flying Capacitor Connection. Connect a 1μF capacitor between C1P and C1N.<br>飞电容正端，在C1P和C1N间接1uF电容 |
| 5 | PVSS | P | Negative Charge-Pump Output. Bypass to PGND with 1μF.<br>电荷泵负端电压输出，接1uF滤波电容到PGND |
| 6 | SGND | G | Signal Ground. Connect PGND and SGND together at the system ground plane. |
| 7 | INR+ | I | Right Positive Polarity Input. 右声道正端输入 |
| 8 | INR- | I | Right Negative Polarity Input. 右声道负端输入 |
| 9 | SVDD2 | P | Signal Path Power-Supply Input. Bypass to PGND with 1μF. Connect directly to PVDD.<br>信号路径电源输入端，与PVDD短接，接1uF滤波电容到PGND |
| 10 | OUTR | O | Right Direct Drive Output. 右声道输出 |
| 11 | BIAS | O | Internal Supply Node. Bypass to PGND with 0.1μF. 内部供电端，接0.1uF电容到地 |
| 12 | OUTL | O | Left Direct Drive Output. 左声道输出 |
| 13 | SVDD | P | Signal Path Power-Supply Input. Bypass to PGND with 1μF. Connect directly to PVDD.<br>信号路径电源输入端，与PVDD短接，接1uF滤波电容到PGND |
| 14 | INL- | I | Left Negative Polarity Input. 左声道负端输入 |
| 15 | INL+ | I | Left Positive Polarity Input. 左声道正端输入 |
| 16 | nSHDN | I | Active-Low Shutdown. Drive nSHDN high for normal operation.<br>拉低时关断；拉高时进行正常工作模式 |
| __ | EP | / | Exposed Pad. Electrically connect to PGND or leave unconnected. |

[1] I: Input; O: Output; G: Ground; P: Power; BST: BOOT Strap; OD: Open drain

## IMPORTANT NOTICE
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