# 120W 单声道D类音频功放

## 120W Class D Mono Amplifier

## ■ FEATURES

・Output Power
120W (VDD=30V, RL=4Ω, THD+N=10%)
76W (VDD=32V, RL=8Ω, THD+N=10%)

・Single Wide Voltage Supply: 4V-34V

・Low Quiescent Current: 10mA (VDD = 24V, with LC and Load)

・Anti-clipping Function (ACF)

・Power Limit (PLIMT) function that can be used to clip the output voltage level below the supply rail

・Spread Switching Frequency, Inductor-free Operation

・Differential / Single-ended Analog Input

・Integrated Self-protection Circuits Including, Undervoltage, Overtemperature, and Overcurrent

・LF and HF Package of ETSSOP28, EP up

・输出功率
120W (VDD=30V, RL=4Ω, THD+N=10%)
76W (VDD=32V, RL=8Ω, THD+N=10%)

・单电源系统，4V-34V宽电压输入范围

・低静态电流: 10mA (VDD = 24V，带LC 和负载)

・ACF防破音功能可选

・功率限幅器功能

・扩频功能，免电感滤波

・模拟差分/单端输入

・保护功能：过流/过热/欠压异常和短路保护

・无铅无卤封装，ETSSOP28，顶部散热片

## ■ APPLICATIONS

・Sound Bars            ・Wireless Speakers

・Consumer Audio Applications    ・TVs/Monitors

・条形音箱            ・无线智能音箱

・便携式音箱            ・消费类音频应用

・拉杆音箱            ・LCD电视/监视器

## ■ DESCRIPTION

HT337B is a mono efficient, Class D audio amplifier. The device can drive a speaker up to 120W/4 Ω at VDD = 30V.

Advanced EMI Suppression enables the use of inexpensive ferrite bead filters while meeting EMC requirements for system cost reduction.

HT337B is protected with Undervoltage, Overtemperature, and Overcurrent protection.

HT337B features Anti-Clipping Function (ACF) which detects output signal clip due to the over input signal and suppresses the output signal clip automatically. Also, the ACF function can adapt the output clip caused by power supply voltage down with battery. It can significantly improve the sound quality, creating a very comfortable musical enjoyment, and to protect the speakers from overload damage.
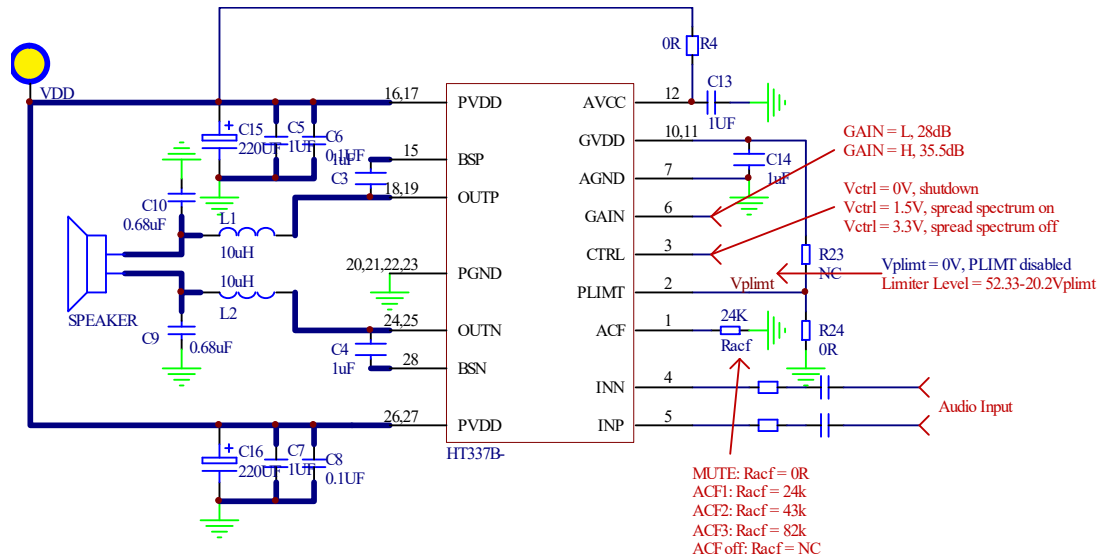
　　HT337B是一款高效D类音频功率放大器。32V供电、THD+N=10%条件下，能够持续提供120W/4Ω功率输出。

　　HT337B具有先进的扩频功能来抑制EMI，使用价格低廉且小体积铁氧体磁珠可满足EMC要求。

　　此外，HT337B内置关断功能使待机电流最小化，还集成了短路保护、热保护和电源欠压异常保护等功能。

　　HT337B具有防削顶失真（ACF）输出控制功能，可检测并抑制由于输入音乐、语音信号幅度过大所引起的输出信号削顶失真（破音），也能自适应地防止在电源电压下降所造成的输出削顶，显著提高音质，创造非常舒适的听音享受，并保护扬声器免受过载损坏。
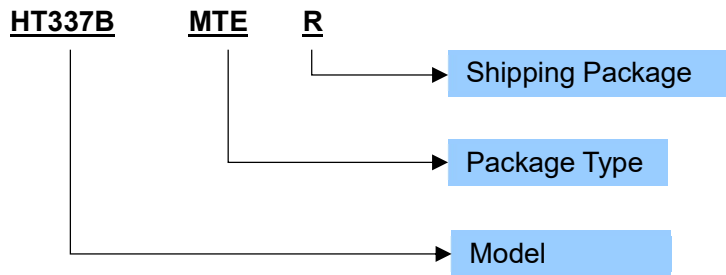
# ■ TYPICAL APPLICATION



GAIN = L, 28dB
GAIN = H, 35.5dB

Vctrl = 0V, shutdown
Vctrl = 1.5V, spread spectrum on
Vctrl = 3.3V, spread spectrum off

Vplimt = 0V, PLIMT disabled
Limiter Level = 52.33-20.2Vplimt

Audio Input

MUTE: Racf = 0R
ACF1: Racf = 24k
ACF2: Racf = 43k
ACF3: Racf = 82k
ACF off: Racf = NC

■ **ORDERING INFORMATION**

| Part Number | Package Type | Marking | Operating Temperature Range | Shipping Package / MOQ |
|---|---|---|---|---|
| HT337BMTER | ETSSOP28 (MTE) | HT337B YYYMAAB[1] | -40℃～85℃ | Tape and Reel (R) / 3000pcs |

**Part Number**

HT337B    MTE    R

→ Shipping Package

→ Package Type

→ Model

**Production Tracking Code**

YYY   M   AA   B

→ Random Code

→ Lot Number

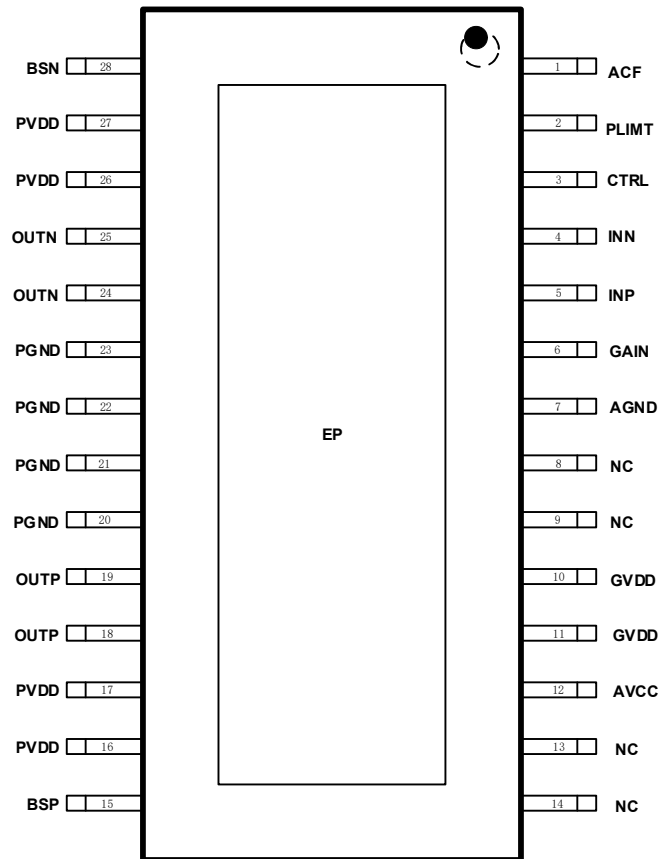→ Date Code – Month
1~9, Jan.~Sep.; J, Otc.; Q, Nov.; K, Dec

→ Internal Code

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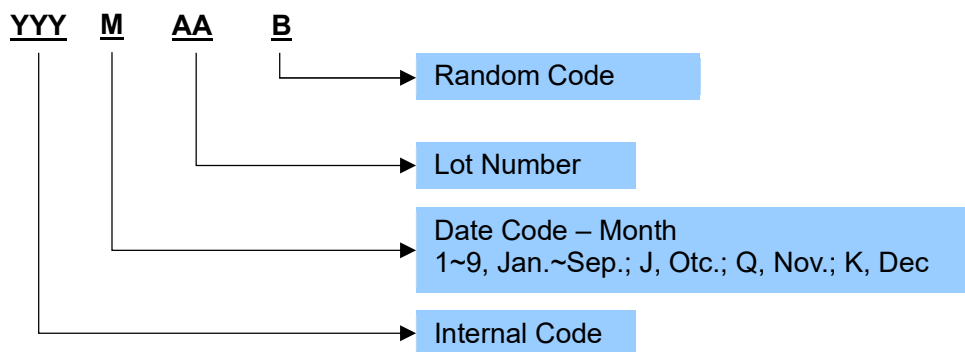
[1] YYYMAAB is production tracking code

# ■ TERMINAL CONFIGURATION



**Top View**

# ■ TERMINAL FUNCTION

| Terminal No. | Name | I/O[1] | Description |
|---|---|---|---|
| 1 | ACF | O | ACF mode and Mute mode selection terminal |
| 2 | PLIMT | I | Sets the maximum output voltage before clipping (Limiter Level) for PLIMT function. |
| 3 | CTRL | I | Working mode selection terminal |
| 4 | INN | I | Negative input terminal |
| 5 | INP | I | Positive input terminal |
| 6 | GAIN | I | Gain selection terminal |
| 7 | AGND | G | Analog ground |
| 8,9,13,14 | NC | - | No connection. |
| 10,11 | GVDD | O | Internal LDO output, connect 1uF to GND |
| 12 | AVCC | P | Analog power supply |
| 15 | BSP | BST | Connection point for the OUTP bootstrap capacitor, which is used to create a power supply for the high-side gate drive for OUTP |
| 16,17,26,27 | PVDD | P | Power Supply for power stage |
| 18,19 | OUTP | O | Positive pin for differential speaker amplifier output |
| 20,21,22,23 | PGND | G | Power Ground |
| 24,25 | OUTN | O | Negative pin for differential speaker amplifier output |
| 28 | BSN | BST | Connection point for the OUTN bootstrap capacitor, which is used to create a power supply for the high-side gate drive for OUTN |
| EP | - | - | Provides thermal connection from the device to the board. A matching ground pad must be provided on the PCB and the device connected to it via solder. 散热PAD |

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

## IMPORTANT NOTICE
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