

# Stereo Headphone Driver with Mute

# Features

- Operating voltage: 2.4V~6.0V
- Internal mute function to prevent power On/Off clicks
- Excellent power supply ripple rejection
- · High slew rate
- Low total harmonic distortion
- Low power consumption

- Short circuit elimination
- Integrated voltage divider (V<sub>DD</sub>/2) to eliminate external resistors

HT82V736

- Wide temperature operating range
- 8-pin SOP package

### Applications

- CD-ROM/RW, DVD-ROM/RW
- PDA, MP3
- Portable Digital Audio

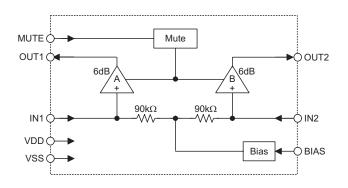
### • Discman, Camcorders

Headphone Amplifier

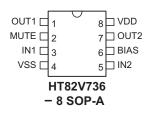
# **General Description**

The HT82V736 is a class AB stereo earphone driver designed for portable digital audio application. It provides an integrated mute function to prevent popping sounds when power is turned on and off. In addition, the HT82V736 further integrates a voltage divider, and therefore the external resistors can be eliminated. The HT82V736 has a fixed gain of 6dB so that external gain setting is unnecessary. It is fully pin and functionally compatible with BH3544 which is suitable for effective low cost applications.

# **Block Diagram**



# **Pin Assignment**





# **Pin Description**

Pin No.	Pin Name	I/O	Description	
1	OUT1	0	Channel 1 output pin	
2	MUTE	Ι	lute control (Mute On: low; Mute Off: high)	
3	IN1	I	Audio input channel 1	
4	VSS	_	Negative power supply, ground	
5	IN2	I	Audio input channel 2	
6	BIAS	I	V <sub>DD</sub> /2 connected a capacitor to ground to eliminate power On/Off clicks	
7	OUT2	0	Channel 2 output pin	
8	VDD		Positive power supply	

# **Absolute Maximum Ratings**

Supply Voltage	V <sub>SS</sub> –0.3V to V <sub>SS</sub> +7.0V	Storage Temperature	.–50°C to 125°C
Input Voltage	V <sub>SS</sub> -0.3V to V <sub>DD</sub> +0.3V	Operating Temperature	–40°C to 85°C

Note: These are stress ratings only. Stresses exceeding the range specified under "Absolute Maximum Ratings" may cause substantial damage to the device. Functional operation of this device at other conditions beyond those listed in the specification is not implied and prolonged exposure to extreme conditions may affect device reliability.

# **Electrical Characteristics** V<sub>IN</sub>=0.5Vrms; Vss=0V; f=1kHz; Ta=25°C; R<sub>L</sub>=32Ω (unless otherwise specified)

Symbol	Parameter		Test Conditions		Turn	Max.	Unit
Symbol	Falameter	$V_{\text{DD}}$	Conditions	Min.	Тур.	wax.	Unit
V <sub>DD</sub>	Supply Voltage		—	2.4		6.0	V
l <sub>Q</sub>	Quiescent Current	5V	V <sub>IN</sub> =0Vrms		2.5	4.0	mA
I <sub>MUTE</sub>	Mute Current	5V	V <sub>IN</sub> =0Vrms		100	_	μA
D.C. Cha	racteristics						
V <sub>MUTE</sub>	Mute Pin Control Voltage	5V		0.3	0.7	1.6	V
$\Delta A_V$	Differential Channel Voltage Gain	5V	_	-0.5	0	0.5	dB
A <sub>V</sub>	Voltage Gain	5V			6		dB
PSRR	Power Supply Rejection Ratio	5V	f <sub>RR</sub> =100Hz; V <sub>RR</sub> =–20dBV	65	75	_	dB
P <sub>O1</sub>	Rated Output Power 1	5V	R <sub>L</sub> =32Ω, THD<0.1%	60	65	_	mW
P <sub>O2</sub>	Rated Output Power 2		R <sub>L</sub> =16Ω, THD<0.1%	110	115		mW
A.C. Cha	A.C. Characteristics						
THD	Total Harmonic Channel Distortion Factor	5V	BW=20~20kHz		0.02	0.05	%
ATT	Mute Attenuation	5V	f=1kHz	80	90		dB
X <sub>TALK</sub>	Channel Separation	5V	f=1kHz	55	70	_	dB
V <sub>NO</sub>	Output Noise Voltage	5V	V <sub>IN</sub> =0Vrms, BW=20~20kHz		-97	-90	dBV



# **Typical Performance Characteristics**

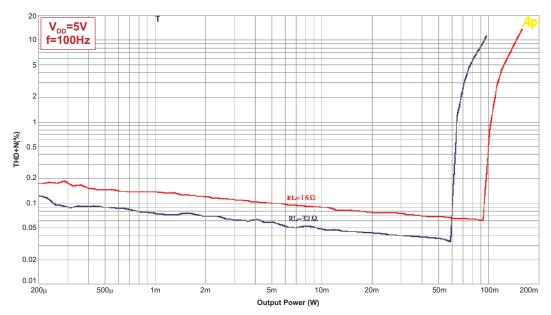


Fig.1 Total Harmonic Distortion vs. Output Power

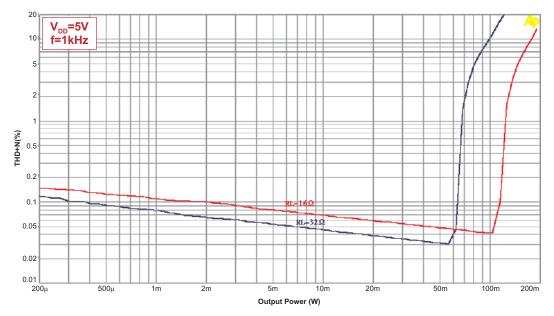


Fig.2 Total Harmonic Distortion vs. Output Power



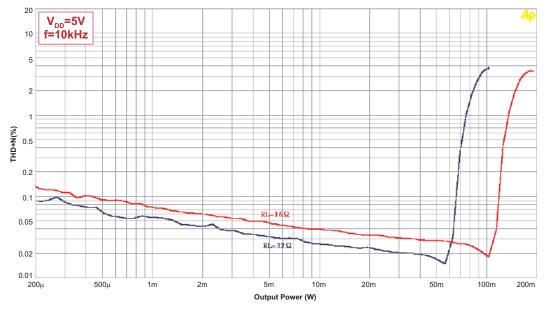


Fig.3 Total Harmonic Distortion vs. Output Power

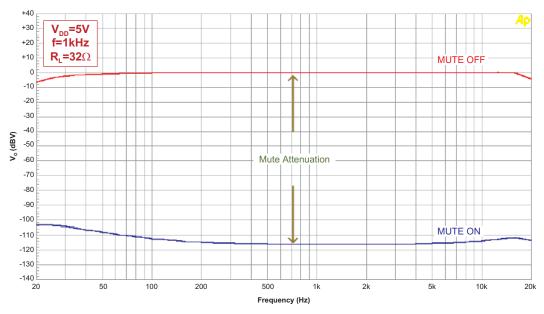


Fig.4 Mute Attenuation vs. Frequency



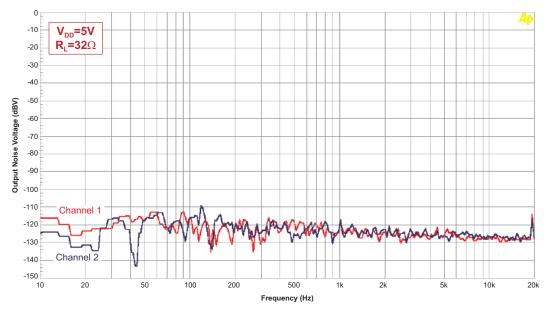
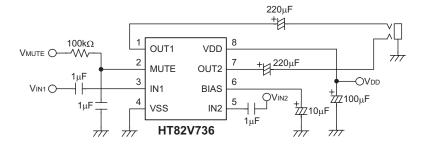


Fig.5 Output Noise Voltage vs. Frequency

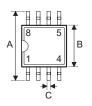
# **Application Circuits**





# Package Information

8-pin SOP (150mil) Outline Dimensions





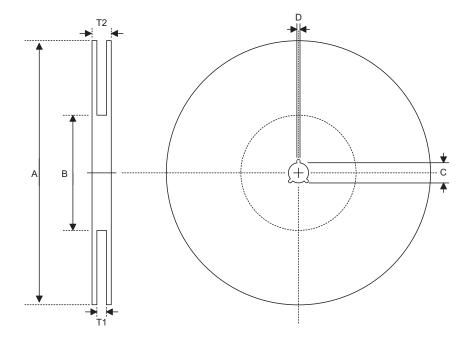


Symbol	Dimensions in mil				
	Min.	Nom.	Max.		
A	228		244		
В	149	_	157		
С	14	_	20		
C′	189	_	197		
D	53	_	69		
E	_	50	_		
F	4	_	10		
G	22	_	28		
Н	4	_	12		
α	0°	_	10°		



# **Product Tape and Reel Specifications**

# **Reel Dimensions**

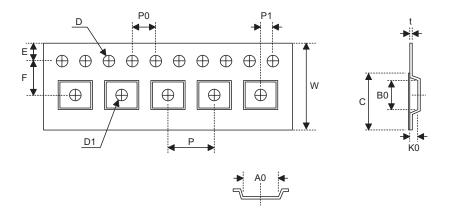


### SOP 8N

Symbol	Description	Dimensions in mm	
А	Reel Outer Diameter	330±1	
В	Reel Inner Diameter	62.0±1.5	
с	Spindle Hole Diameter	13.0+0.5 _0.2	
D	Key Slit Width	2.0±0.5	
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	5.2±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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