



## TDA7499

### LINEAR INTEGRATED CIRCUIT

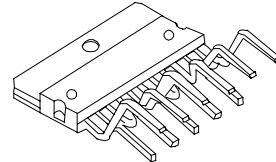
## 6 + 6W STEREO AMPLIFIER WITH MUTE AND STAND-BY

### ■ DESCRIPTION

The UTC **TDA7499** is class AB dual Audio Power Amplifier and designed for high quality sound application as Hi-Fi music centers and stereo TV sets.

### ■ FEATURES

- \* Wide supply voltage range up to  $\pm 18V$
- \* 6 + 6W @ THD = 10%,  $R_L = 8\Omega$ ,  $V_S = +14V$
- \* No POP at Turn-On/Off
- \* MUTE (POP free)
- \* STAND-BY feature (Low Iq)
- \* Short circuit protection to GND
- \* Thermal overload protection



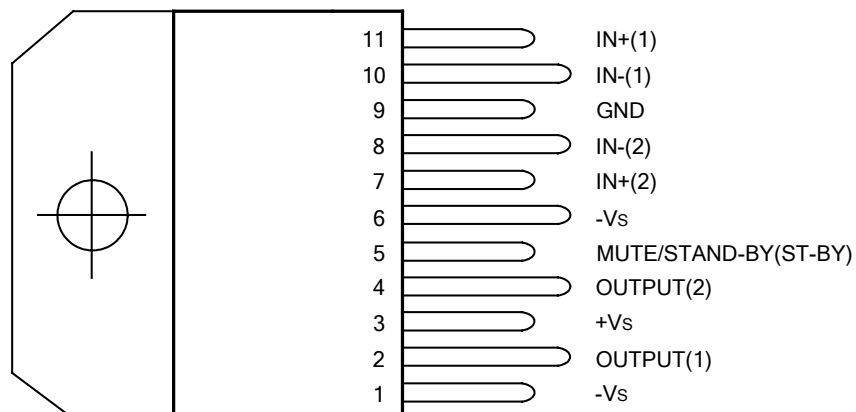
HZIP-11

\*Pb-free plating product number: TDA7499L

### ■ ORDERING INFORMATION

Ordering Number		Package	Packing
Normal	Lead Free Plating		
TDA7499-J11-T	TDA7499L-J11-T	HZIP-11	Tube

### ■ PIN CONFIGURATION



\* TAB CONNECTED TO PIN 6

## ■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
DC Supply Voltage	V <sub>S</sub>	±20	V
Output Peak current (internally limited)	I <sub>O</sub>	2.5	A
Power Dissipation T <sub>c</sub> =70°C	P <sub>D</sub>	23	W
Operating Temperature	T <sub>OPR</sub>	0 ~ +70	°C
Junction Temperature	T <sub>J</sub>	0 ~ +125	°C
Storage Temperature	T <sub>STG</sub>	-40 ~ +150	°C

## ■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Thermal Resistance Junction-Case	$\theta_{JC}$	2.8	°C/W
Thermal Resistance Junction-Ambient	$\theta_{JA}$	35	°C/W

## ■ ELECTRICAL CHARACTERISTICS

(Refer to the test circuit, V<sub>S</sub>=±14V, R<sub>S</sub>=50Ω, G<sub>v</sub>=30dB, f=1KHz, T<sub>a</sub>=25°C, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Range	V <sub>S</sub>	R <sub>L</sub> =8Ω R <sub>L</sub> =4Ω	±5 ±5		±18 ±13.5	V
Input Offset Voltage	V <sub>OS</sub>		-25		+25	mV
Total Input Noise	e <sub>N</sub>	A Curve f=20Hz ~ 22KHz		3 4	8	μV
Total Quiescent Current	I <sub>Q</sub>			50	90	mA
Output Bias Current	I <sub>B</sub>			500		nA
Input Resistance	R <sub>i</sub>		15	20		KΩ
Output Power	P <sub>O</sub>	THD=10% R <sub>L</sub> =8Ω R <sub>L</sub> =4Ω, V <sub>S</sub> ±11V	8	10 7.5		W
		THD=1% R <sub>L</sub> =8Ω R <sub>L</sub> =4Ω, V <sub>S</sub> ±11V	6	7.5 6		W
Total Harmonic Distortion	THD	R <sub>L</sub> =8Ω, P <sub>O</sub> =1W, f=1KHz		0.03		%
		R <sub>L</sub> =8Ω, P <sub>O</sub> =0.1~ 5W, V <sub>S</sub> ±13V f=100Hz ~ 15KHz		0.2	0.5	%
		R <sub>L</sub> =4Ω, P <sub>O</sub> =1W, f=1KHz		0.02		%
		R <sub>L</sub> =4Ω, P <sub>O</sub> =0.1~ 4W, V <sub>S</sub> ±10V f=100Hz ~ 15KHz		0.2	1	%
Cross Talk	C <sub>T</sub>	f=1KHz f=10KHz	50	70 60		dB
Open Loop Voltage Gain	G <sub>OL</sub>			80		dB
Supply Voltage Rejection (each channel)	SVR	f <sub>r</sub> =100Hz, V <sub>r</sub> =0.5V		60		dB
Slew Rate	SR		6.5	10		V/μs
Thermal Shut-down Junction Temperature	T <sub>J</sub>			145		°C
<b>MUTE FUNCTION (ref: +Vs)</b>						
Mute/Play Threshold	V <sub>T MUTE</sub>		-7	-6	-5	V
Mute Attenuation	A <sub>M</sub>		60	70		dB
<b>STAND BY FUNCTION (ref: +Vs) (only For Split Supply)</b>						
Stand-by/Mute Threshold	V <sub>T ST-BY</sub>		-3.5	-2.5	-0.5	V
Quiescent Current @ Stand-by	I <sub>Q ST-BY</sub>			3	6	mA
Stand-by Attenuation	A <sub>ST-BY</sub>			110		dB

## ■ MUTE/STAND-BY FUNCTION

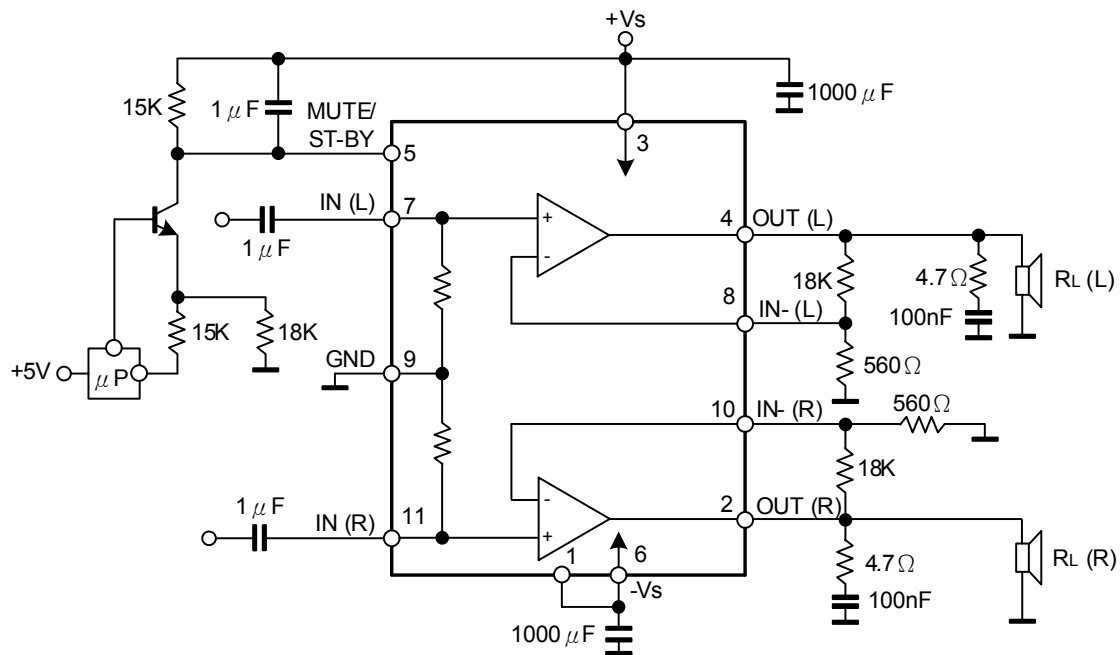
MUTE/STAND-BY function is assembled at pin 5 and to control the amplifier status by two different thresholds, referred to  $+V_S$ .

-When  $V_{pin5}$  higher than  $+V_S - 2.5V$  the amplifier is in Stand-by mode and the final stage generators are off

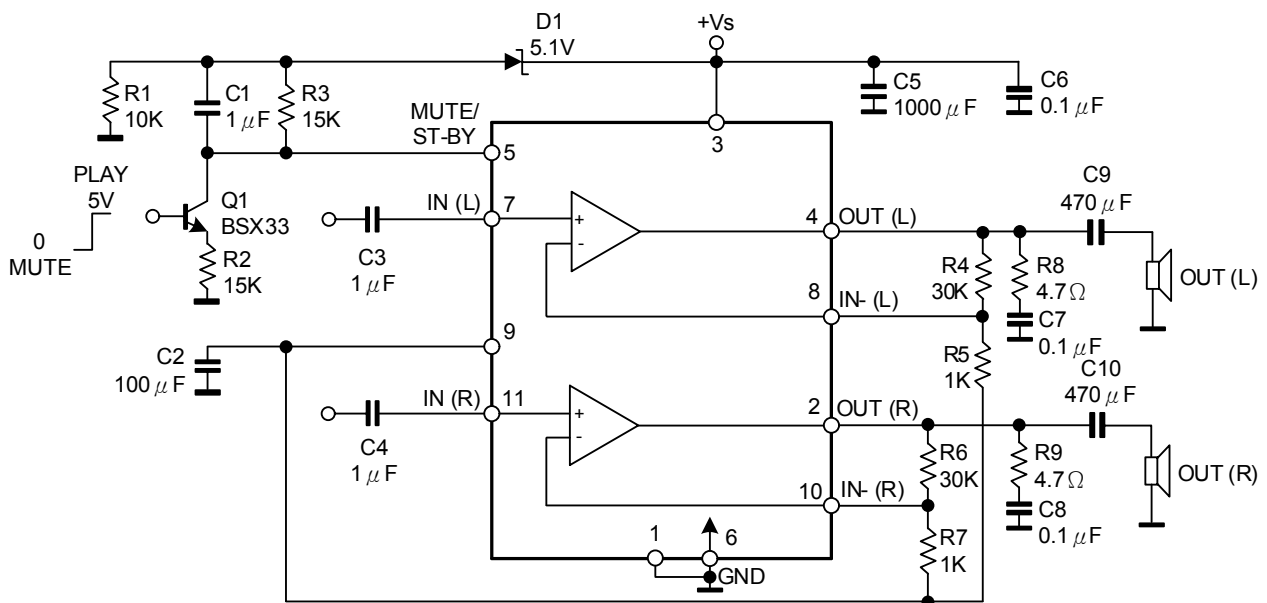
-When  $V_{pin5}$  is between  $+V_S - 2.5V$  and  $+V_S - 6V$  the final stage current generators are switched on and the amplifier is in mute mode

-When  $V_{pin5}$  is lower than  $+V_S - 6V$  the amplifier is in play mode.

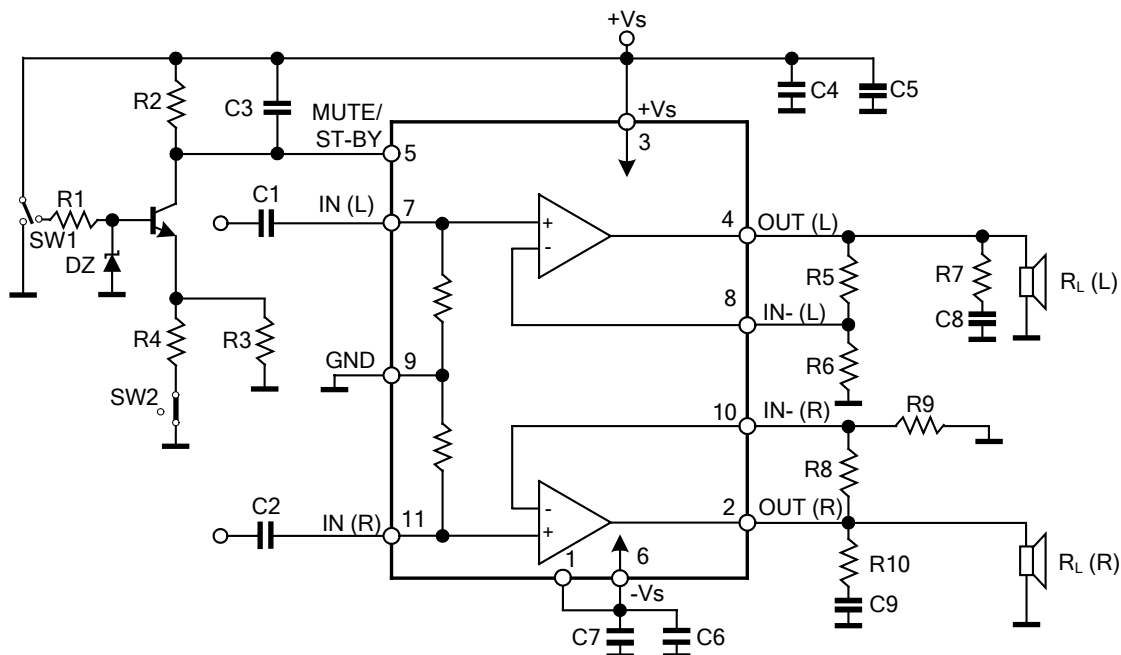
## ■ TYPICAL APPLICATION CIRCUIT



## ■ SINGLE SUPPLY APPLICATION



## ■ TEST AND APPLICATION CIRCUIT (Stereo configuration)



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.