



TDA7499

LINEAR INTEGRATED CIRCUIT

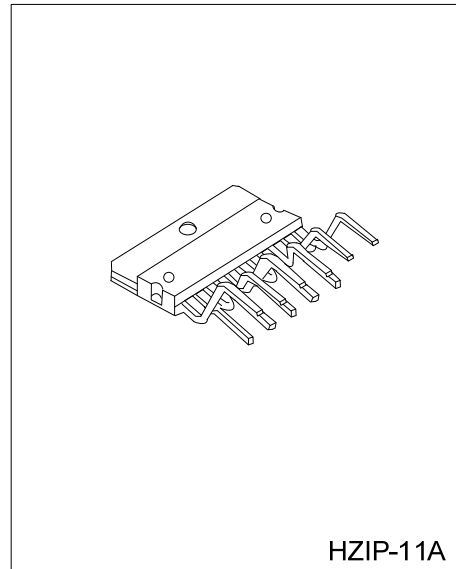
6 + 6W STEREO AMPLIFIER WITH MUTE AND STAND-BY

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

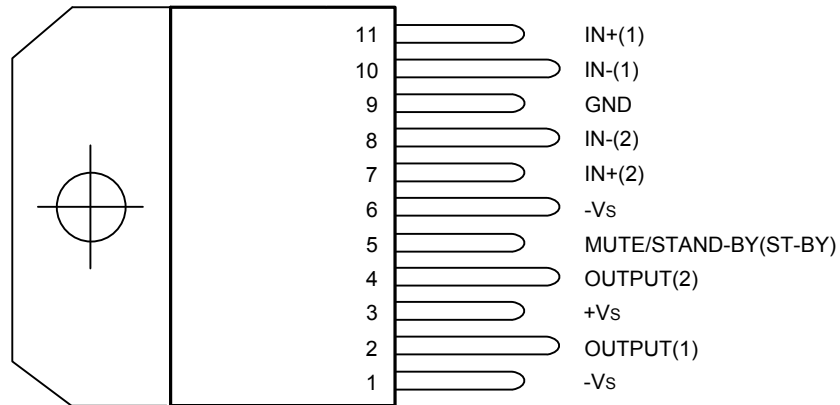


ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
TDA7499L-J11-A-T	TDA7499G-J11-A-T	HZIP-11A	Tube

<p>TDA7499L-J11-A-T</p>	<p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Plating</p>	<p>(1) T: Tube</p> <p>(2) J11-A: HZIP-11A</p> <p>(3) H: Halogen Free, L: Lead Free</p>
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■ PIN CONFIGURATION



* TAB CONNECTED TO PIN 6

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
DC Supply Voltage	V_S	± 20	V
Output Peak current (internally limited)	$I_{O(PEAK)}$	2.5	A
Power Dissipation ($T_C=70^\circ\text{C}$)	P_D	23	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Operating Temperature	T_{OPR}	0 ~ +70	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 ~ +150	$^\circ\text{C}$

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	θ_{JC}	2.8	$^\circ\text{C/W}$
Junction to Ambient	θ_{JA}	35	$^\circ\text{C/W}$

■ ELECTRICAL CHARACTERISTICS

Refer to the test circuit, $V_S = \pm 14\text{V}$, $R_S = 50\Omega$, $G_V = 30\text{dB}$, $f = 1\text{KHz}$, $T_a = 25^\circ\text{C}$, unless otherwise specified.

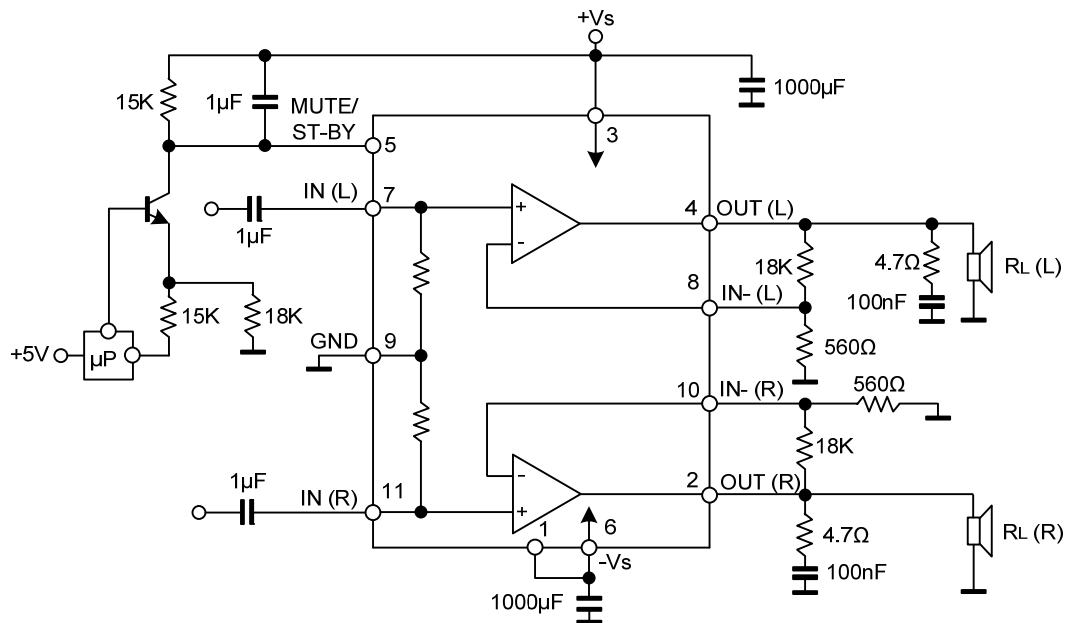
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
Supply Range	V_S	$R_L = 8\Omega$	± 5		± 18	V	
		$R_L = 4\Omega$	± 5		± 13.5	V	
Input Offset Voltage	V_{OS}		-25		+25	mV	
Total Input Noise	eN	A Curve		3		μV	
		$f = 20\text{Hz} \sim 22\text{KHz}$		4	8	μV	
Total Quiescent Current	I_Q			50	90	mA	
Output Bias Current	I_B			500		nA	
Input Resistance	R_i		15	20		K Ω	
Output Power	P_{OUT}	THD=10%	$R_L = 8\Omega$	8	10		W
			$R_L = 4\Omega, V_S \pm 11\text{V}$		7.5		W
		THD=1%	$R_L = 8\Omega$	6	7.5		W
			$R_L = 4\Omega, V_S \pm 11\text{V}$		6		W
Total Harmonic Distortion	THD	$R_L = 8\Omega, P_{OUT} = 1\text{W}, f = 1\text{KHz}$		0.03		%	
		$R_L = 8\Omega, P_{OUT} = 0.1 \sim 5\text{W}, V_S \pm 13\text{V}$ $f = 100\text{Hz} \sim 15\text{KHz}$		0.2	0.5	%	
		$R_L = 4\Omega, P_{OUT} = 1\text{W}, f = 1\text{KHz}$		0.02		%	
		$R_L = 4\Omega, P_{OUT} = 0.1 \sim 4\text{W}, V_S \pm 10\text{V}$ $f = 100\text{Hz} \sim 15\text{KHz}$		0.2	1	%	
Cross Talk	C_T	$f = 1\text{KHz}$		70		dB	
		$f = 10\text{KHz}$	50	60		dB	
Open Loop Voltage Gain	G_{OL}			80		dB	
Supply Voltage Rejection (each channel)	SVR	$f_r = 100\text{Hz}, V_r = 0.5\text{V}$		60		dB	
Slew Rate	SR		6.5	10		V/ μs	
Thermal Shut-down Junction Temperature	T_J			145		$^\circ\text{C}$	
MUTE FUNCTION (ref: +Vs)							
Mute/Play Threshold	V_{T_MUTE}		-7	-6	-5	V	
Mute Attenuation	A_M		60	70		dB	
STAND BY FUNCTION (ref: +Vs) (only For Split Supply)							
Stand-by/Mute Threshold	V_{T_ST-BY}		-3.5	-2.5	-0.5	V	
Quiescent Current @Stand-by	I_{Q_ST-BY}			3	6	mA	
Stand-by Attenuation	A_{ST-BY}			110		dB	

MUTE/STAND-BY FUNCTION

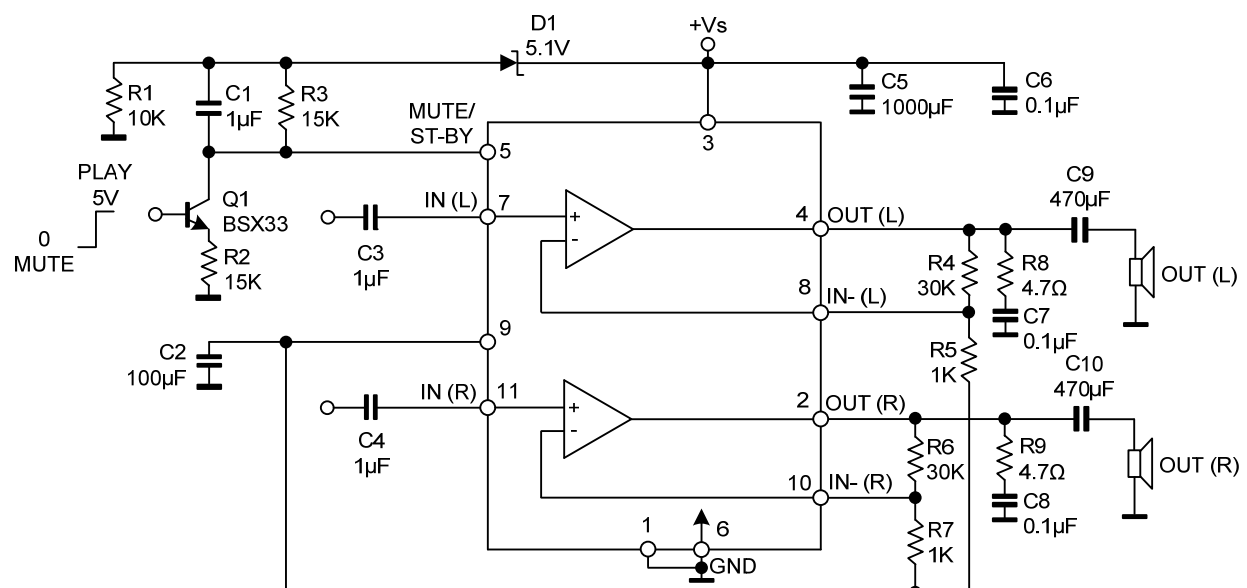
MUTE/STAND-BY function is assembled at pin 5 and to control the amplifier status by two different thresholds, referred to $+V_S$.

- 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 play mode.

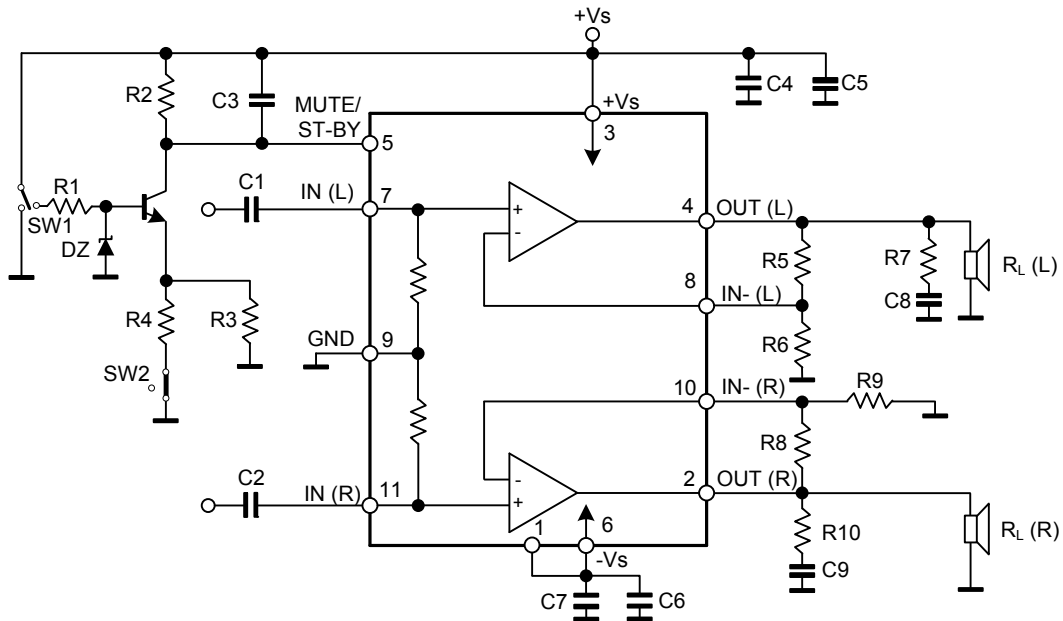
TYPICAL APPLICATION CIRCUIT



SINGLE SUPPLY APPLICATION



■ TEST AND APPLICATION CIRCUIT (STEREO CONFIGURATION)



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