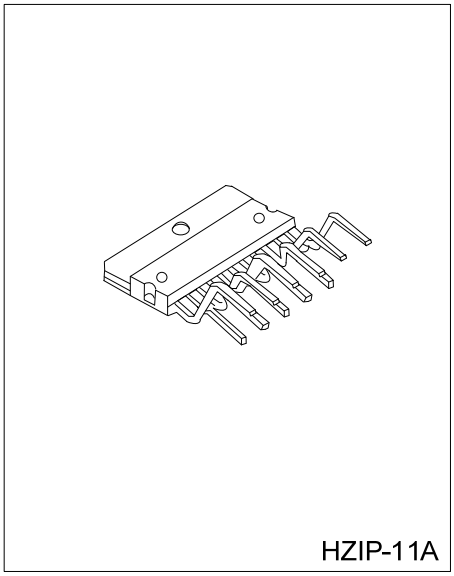
TDA7499

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 ±18V
* 6 + 6W @ THD =10%, R_L = 8Ω, 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

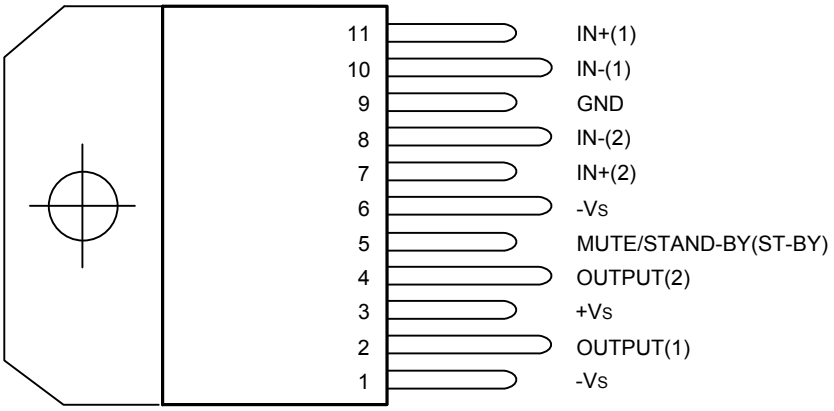
■ ORDERING INFORMATION

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

TDA7499L-J11-A-T
(1)Packing Type
(2)Package Type
(3)Lead Plating

(1) T: Tube
(2) J11-A:HZIP-11A
(3) H: Halogen Free, L: Lead Free

■ 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°C)	P_D	23	W
Junction Temperature	T_J	150	°C
Operating Temperature	T_{OPR}	0 ~ +70	°C
Storage Temperature	T_{STG}	-40 ~ +150	°C

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	θ_{JC}	2.8	°C/W
Junction to Ambient	θ_{JA}	35	°C/W

■ ELECTRICAL CHARACTERISTICS

Refer to the test circuit, V_S = ± 14V, R_S =50Ω, G_V =30dB, f=1 KHz, Ta=25°C, unless otherwise specified.

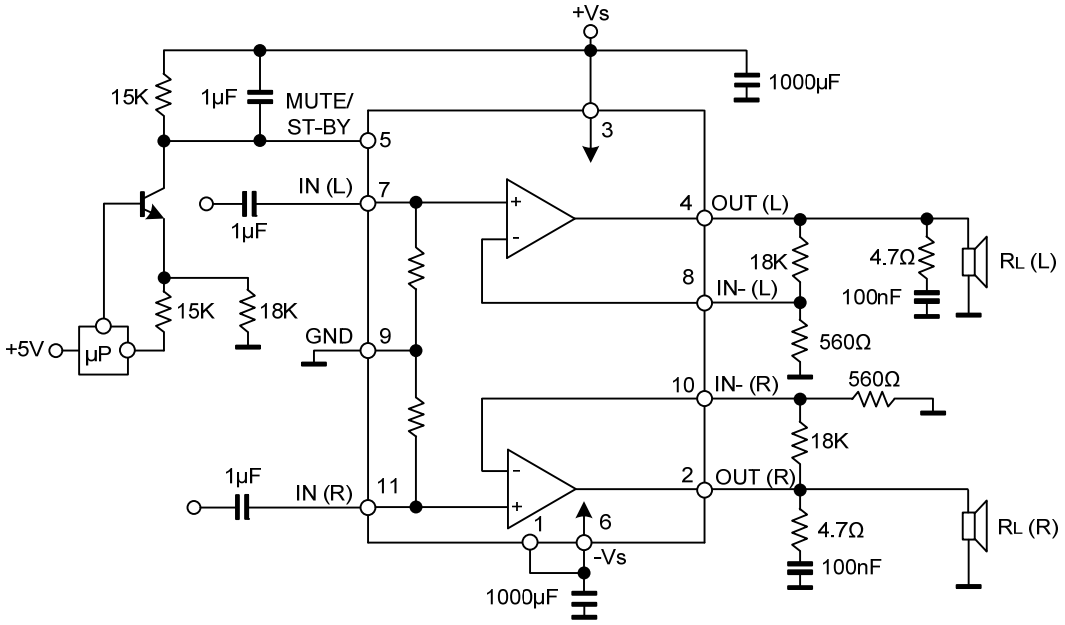
PARAMETER	SYMBOL	TEST CONDITIONS		MIN	TYP	MAX	UNIT
Supply Range	V_S	R_L=8Ω		±5		±18	V
		R_L=4Ω		±5		±13.5	V
Input Offset Voltage	V_{OS}			-25		+25	mV
Total Input Noise	eN	A Curve			3		μV
		f=20Hz ~ 22KHz			4	8	μV
Total Quiescent Current	I_Q				50	90	mA
Output Bias Current	I_B				500		nA
Input Resistance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

■ MUTE/STAND-BY FUNCTION

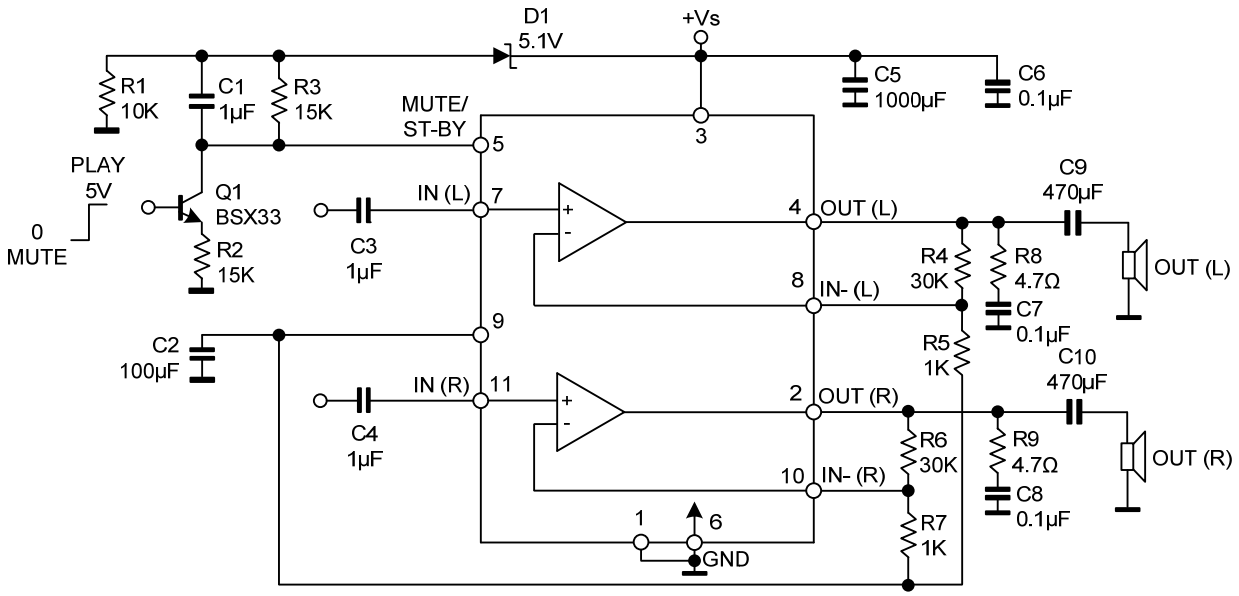
MUTE/STAND-BY function is assembled at pin 5 and to control the amplifier status by two different thresholds, referred to $+V_S$.

- When Vpin5 higher than = $+V_S$ - 2.5V the amplifier is in Stand-by mode and the final stage generators are off
- When Vpin5 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 Vpin5 is lower than $+V_S$ - 6V the amplifier is play mode.

■ TYPICAL APPLICATION CIRCUIT



■ SINGLE SUPPLY APPLICATION



■ TEST AND APPLICATION CIRCUIT (STEREO CONFIGURATION)