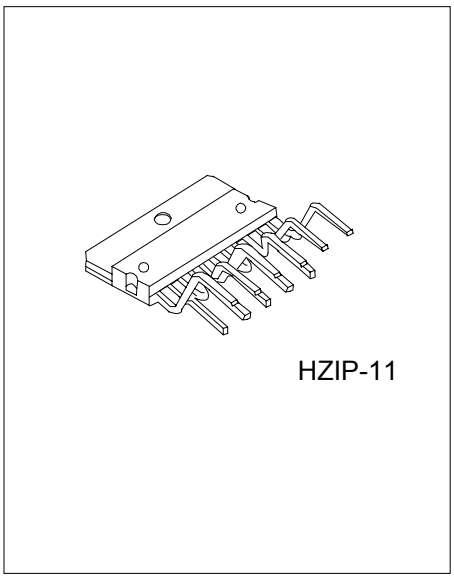
TDA7499

LINEAR INTEGRATED CIRCUIT

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



*Pb-free plating product number:TDA7499L

■ 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.

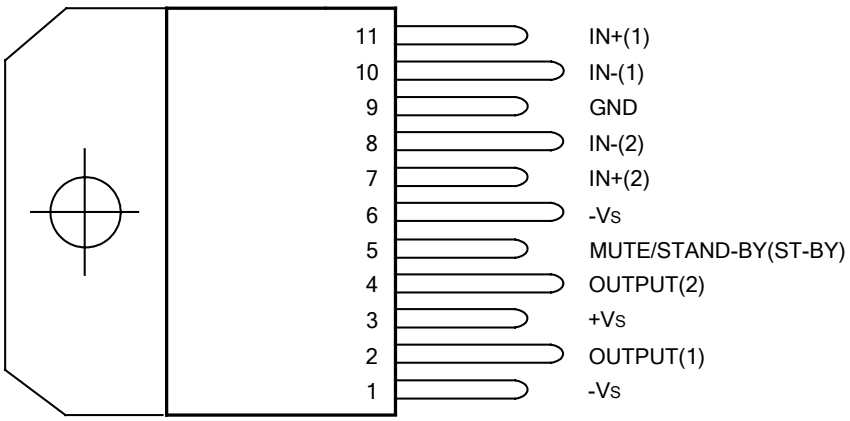
■ FEATURES

* 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
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	Vs	±20	V
Output Peak current (internally limited)	Io	2.5	A
Power Dissipation Tc=70℃	P_D	23	W
Operating Temperature	T_{OPR}	0 ~ +70	℃
Junction Temperature	T_J	0 ~ +125	℃
Storage Temperature	T_{STG}	-40 ~ +150	℃

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Thermal Resistance Junction-Case	θ_{JC}	2.8	℃/W
Thermal Resistance Junction-Ambient	θ_{JA}	35	℃/W

■ ELECTRICAL CHARACTERISTICS

(Refer to the test circuit, Vs=±14V, Rs=50Ω, Gv=30dB, f=1KHz, Ta=25℃, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Range	Vs	R_L=8Ω R_L=4Ω	±5 ±5		±18 ±13.5	V
Input Offset Voltage	Vos		-25		+25	mV
Total Input Noise	e_N	A Curve f=20Hz ~ 22KHz		3 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	Po	THD=10% R_L=8Ω R_L=4Ω, Vs±11V	8	10 7.5		W
		THD=1% R_L=8Ω R_L=4Ω, Vs±11V	6	7.5 6		W
Total Harmonic Distortion	THD	R_L=8Ω, Po=1W, f=1KHz		0.03		%
		R_L=8Ω, Po=0.1~ 5W, Vs±13V f=100Hz ~ 15KHz		0.2	0.5	%
		R_L=4Ω, Po=1W, f=1KHz		0.02		%
		R_L=4Ω, Po=0.1~ 4W, Vs±10V f=100Hz ~ 15KHz		0.2	1	%
Cross Talk	C_T	f=1KHz f=10KHz	 50	70 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		℃
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

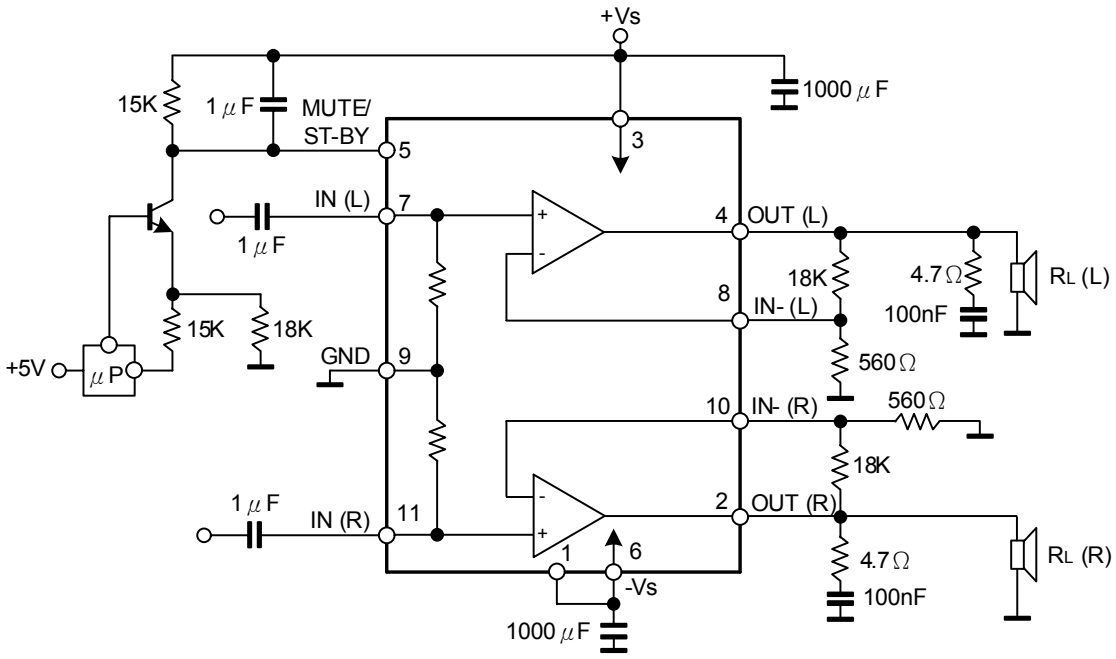
MUTE/STAND-BY function is assembled at pin 5 and to control the amplifier status by two different thresholds, referred to $+V_S$.

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

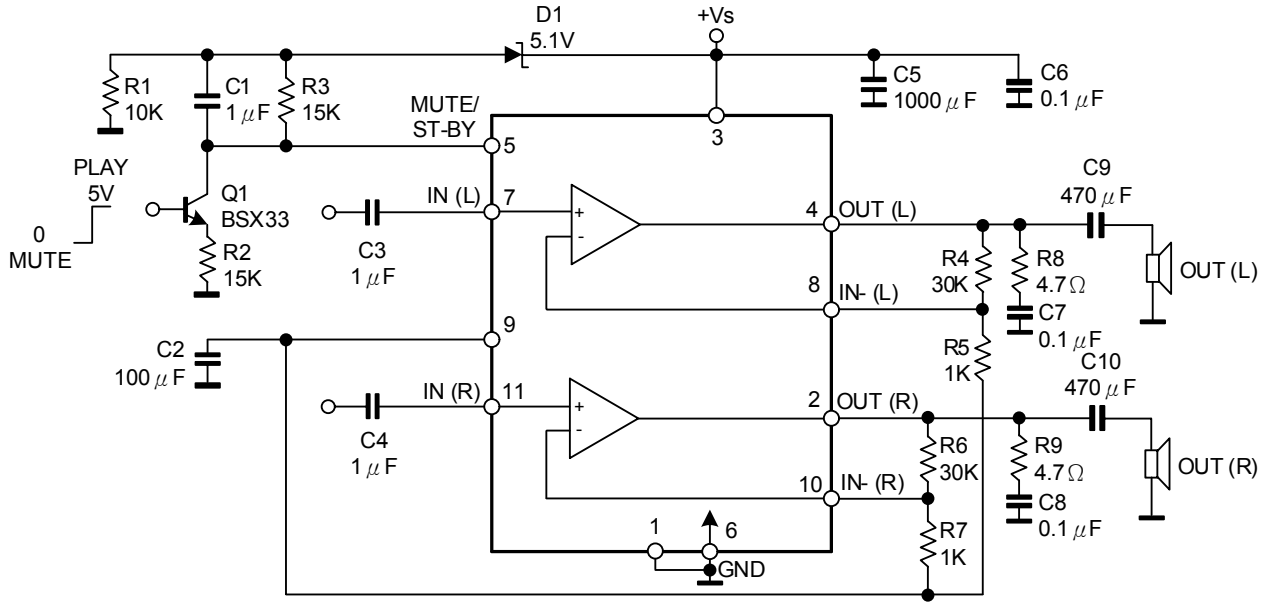
-When Vpin5 is between $+V_S$ - 2.5V and $+V_S$ - 6V the final stage current generators are switched on and the amplifier is in mute mode

-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)