2W+2W AMPLIFIER
WITH DC VOLUME CONTROL—YD7496L

DESCRIPTION

The YD7496L is a stereo 2W+2W class AB power amplifier assembled in the @ PowerDIP20 package, specially designed for high quality sound, TV and Monitor applications.

Features of the YD7496lL include linear volume control, Stand-by and mute functions.

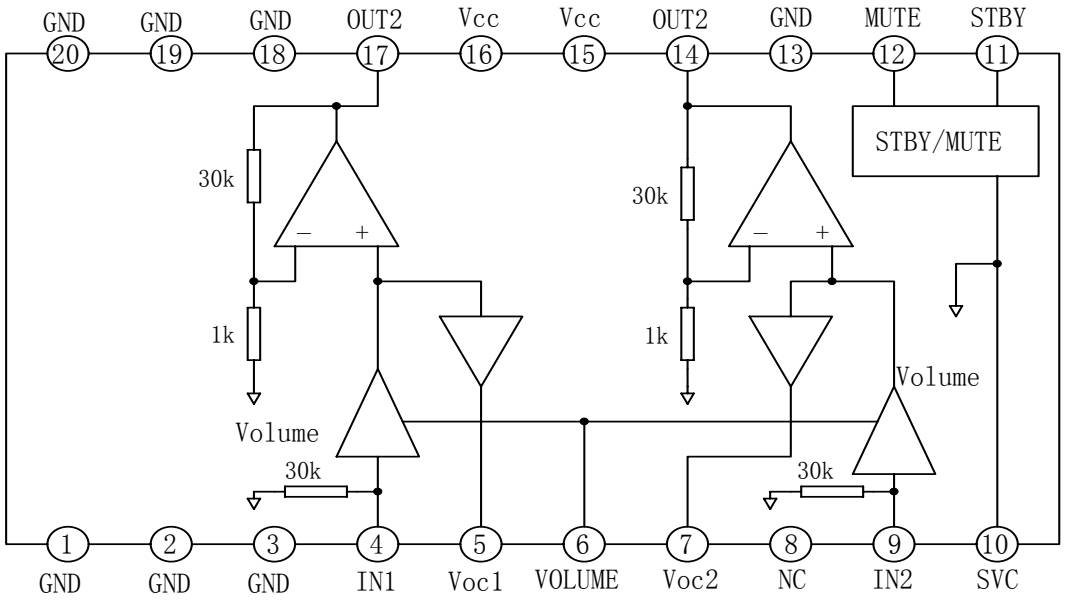
FEATURES

*2W+2W OUTPUT POWER R_L＝8Ω @ THD=10% ,Vcc＝14V.
*ST-BY AND MUTE FUNCTION.
*LOW TURN-ON TURN-OFF POP NOISE.
*LINER VOLUME CONTROL DC COUPLED WITH POWER OP. AMP.
*NO BOUCHEROT CELL.
*NO ST-BY RC INPUT NETWORK.
*SINGLE SUPPLY RANGING UP TO 15V
*SHORT CIRCUIT PROTECTION.
*THERMAL OVERLOAD PROTECTION.
*INTERNALLY FIXED GAIN.
*SOFT CLIPPING.
*VARIABLE OUTPUT AFTER VOLUME CONTROL CIRCUIT.
*POWERDIP 20 PACKAGE.

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BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS (Tamb=25℃)

PARAMETER		SYMBOL	VALUE	UNIT
DC Supply Voltage		Vcc	26	V
Maximum Input Voltage		Vin	8	Vp-p
Volume CTRL DC Voltage		V6	7	V
Output Peak Current(internally limited)		Iop	1.0	A
Power Dissipation	No Heat Sink	P_D	2	W
	Tc=60℃		6.0	
Operating Temperature		Topr	-20～+70	℃
Storage Temperature		Tstg	-40～+150	℃

MUTE STAND-BY TRUTH TABLE

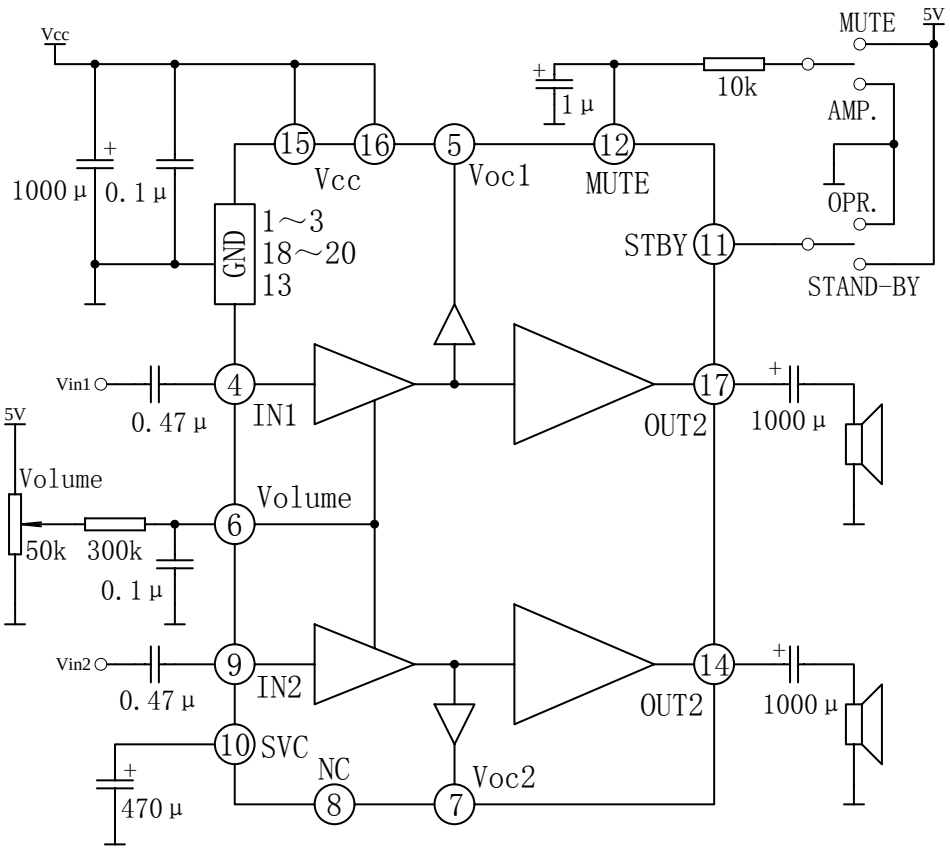
MUTE	ST-BY	OPERATING CONDITION
H	H	STANDBY
L	H	STANDBY
H	L	MUTE
L	L	PLAY

ELECTRICAL CHARACTERISTICS

(Vcc=14V,R_L=8Ω, Rg=50Ω, Tamb=25℃,Unless otherwise specified.)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Supply Range	Vcc		10		18	V
Quiescent Current	Iccq			25	50	mA
Input Offset Voltage	Vo			7		mV
Output Power	Po	THD＝10%	1.6	2		W
		THD＝1%		1.3		
Total Harmonic Distortion	THD	Po＝1W			0.4	%
Closed Loop Gain	Gv	Vol Ctrl>4.5V	28.5	30	31.5	dB
Attenuation at Minimum Volume	Gmin	Vol Ctrl<0.5V	-80			dB
Monitor Out Gain	Gvc	Vol Ctrl>4.5V	-1.5	0	1.5	dB
Frequency Response	BW			0.6		MHz
Input Resistance	Rin		22.5	30		kΩ
Total Output Noise	EN	F=20Hz～22kHz, max volume		500	800	μV
		F=20Hz～22kHz, max attenuation		100	250	μV
		F=20Hz～22kHz,mute		60	150	μV
Supply Voltage Rejection	SVR	Max volume, Csvr=470μ, Vr=1V	35	39		dB
		Max attenuation, Csvr=470μ, Vr=1V	55	65		dB
Thermal Muting	T_M			150		℃
Thermal Shut-down	Ts			160		℃
MUTE STAND-BY & INPUT SELECTION FUNCTIONS						
Stand-by ON Threshold	$V_{ST\ ON}$		3.5			V
Stand-by OFF Threshold	$V_{ST\ OFF}$				1.5	V
Mute ON Threshold	$V_{M\ ON}$		3.5			V
Mute OFF Threshold	$V_{M\ OFF}$				1.5	V
Quiescent Current @ Stand-by	Iccqstby			0.6	1	mA
Mute Attenuation	Gmute		-50	-65		dB
Stand-by bias current	Istby	Stand by on V_{ST-BY}=5V V_{MUTE}=5V		80		μA
		Play or Mute	-20	-5		
Mute bias current	Imute	Mute		1	5	μA
		Play		0.2	2	

APPLICATION CIRCUIT



OUTLINE DRAWING

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
a1	0.51			0.020		
B	0.85		1.40	0.033		0.055
b		0.50			0.020	
b1	0.38		0.50	0.015		0.020
D			24.80			0.976
E		8.80			0.346	
e		2.54			0.100	
e3		22.86			0.900	
F			7.10			0.280
I			5.10			0.201
L		3.30			0.130	
Z			1.27			0.050

