

### 2W+2W AMPLIFIER WITH DC VOLUME CONTROL

#### Description

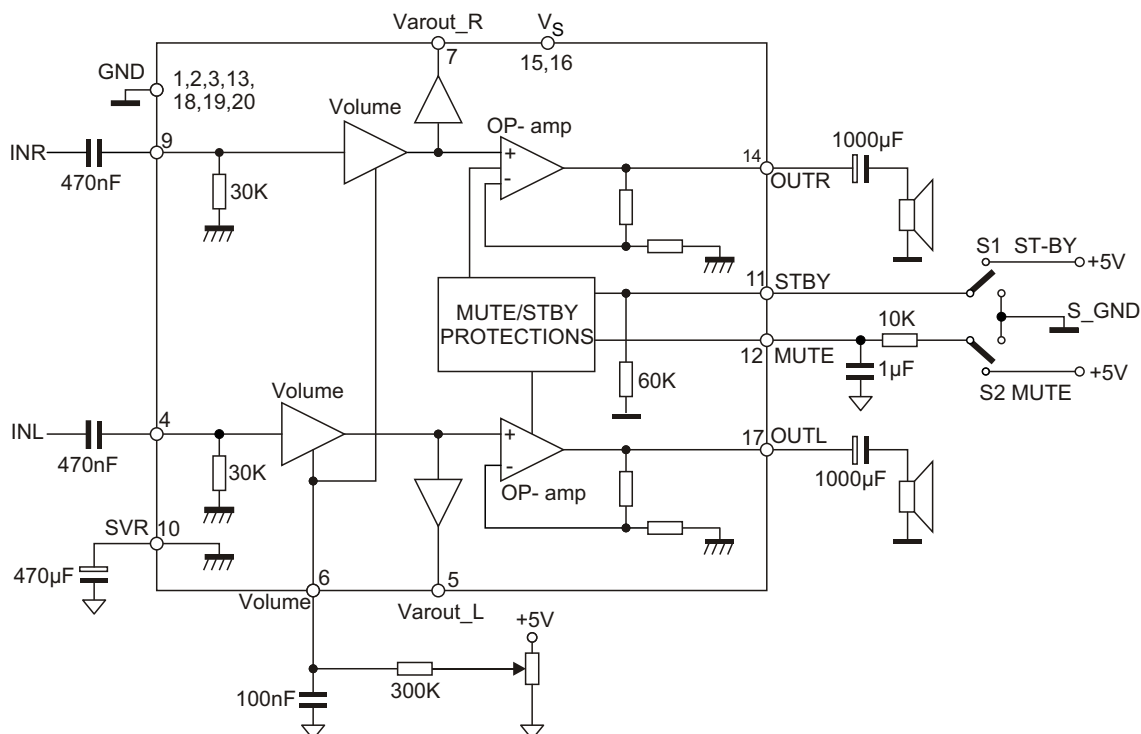
The GMA7496L is a stereo 2W+2W class AB power amplifier assembled in the @ DIP- 20 package, specially designed for high quality sound, TV and Monitor applications.

Features of the GMA7496L include linear volume control, Stand-by and mute functions.

#### Features

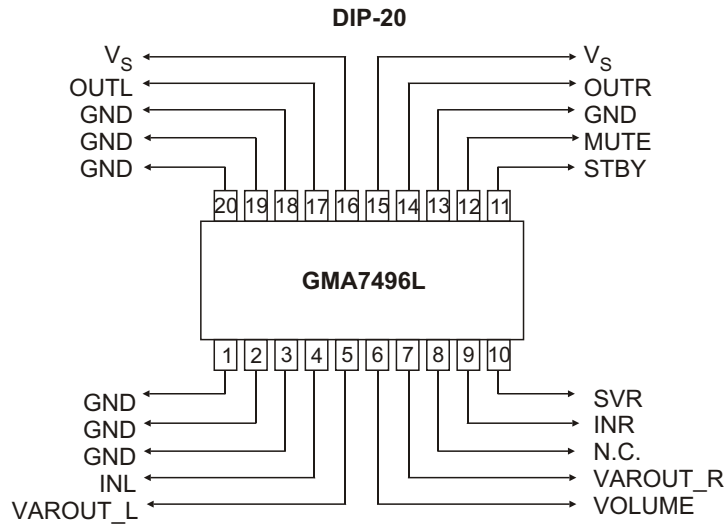
- ◆ 2W+2W Output Power
- ◆  $R_L = 8 \text{ } @\text{THD} = 10\% V_{CC} = 14\text{V}$
- ◆ St-by and Mute Functions
- ◆ Low Turn- on Turn-off POP Noise
- ◆ Linear Volume Control DC Coupled With Power Op- amp.
- ◆ No Boucherot Cell
- ◆ No St-by RC Input Network
- ◆ Single Supply Ranging up to 15V
- ◆ Short Circuit Protection
- ◆ Thermal Overload Protection
- ◆ Internally Fixed Gain
- ◆ Soft Clipping
- ◆ Variable Output After Volume Control Circuit
- ◆ DIP- 20 Package

#### TYPIC APPLICATION CIRCUITS



### 2W+2W AMPLIFIER WITH DC VOLUME CONTROL

#### ◆ MARKING INFORMATION & PIN CONFIGURATIONS (TOP VIEW)



#### ◆ ORDERING INFORMATION

ORDERING NUMBER	PACKAGE	SHIPPING
GMA7496LD20	DIP-20	22 Units/ Tube

\* For detail Ordering Number identification, please see last page.

## 2W+2W AMPLIFIER WITH DC VOLUME CONTROL

## ◆ ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
DC Supply Voltage	$V_S$	26	V
Maximum Input Voltage	$V_{IN}$	8	Vpp
Total Power Dissipation (Tcase= 60°C)	$P_{tot}$	6	W
Ambient Operating Temperature	Tamp	0 to 70	°C
Storage and Junction Temperature	Tstg, Tj	-40 to 150	°C
Volume CTRL DC Voltage	$V_6$	7	V

## ◆ THERMAL DATA

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-pins (max.)	$R_{th\ j-pins}$	15	°C/W
Thermal Resistance Junction-ambient (max.)	$R_{th\ j-amb}^{(*)}$	50	°C/W

(\*) Mounted on PCB with no heatsink



## 2W+2W AMPLIFIER WITH DC VOLUME CONTROL

## ◆ ELECTRICAL CHARACTERISTICS

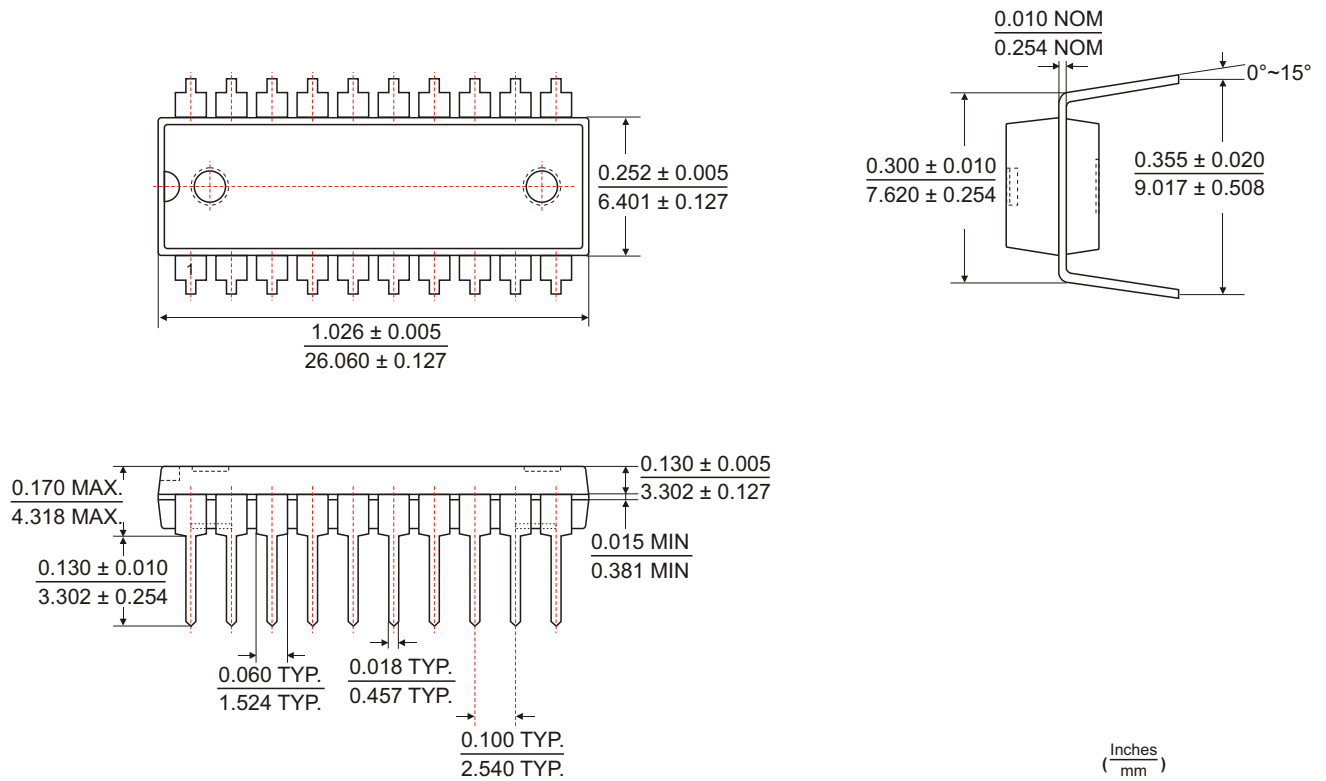
( Refer to the test circuit  $V_S = 14V$ ;  $R_L = 8 \Omega$ ,  $R_g = 50W$ ,  $T_{amb} = 25^\circ C$ ).

Parameter	SYMBOL	TEST CONDITIONS	Min	Typ	Max	Unit
Supply Voltage Range	$V_S$		10		18	V
Total Quiescent Current	$I_Q$			25	50	mA
Output DC Offset Referred to SVR Potential	$DCV_{OS}$	No Input Signal		200		mV
Quiescent Output Voltage	$V_O$			7		V
Output Power	$P_O$	THD= 10%; $R_L = 8$	1.6	2		W
		THD= 1%; $R_L = 8$		1.3		W
Total Harmonic Distortion	THD	$G_V = 30dB$ ; $P_O = 1W$ ; $f = 1kHz$			0.4	%
Output Peak Current	$I_{peak}$	(Internally Limited)	0.7	0.9		A
Input Signal	$V_{IN}$				2.8	Vrms
Closed Loop Gain	$G_V$	Vol Ctrl > 4.5V	28.5	30	31.5	dB
Monitor Out Gain	$G_{VLine}$	Vol Ctrl > 4.5V; Zload > 30K	-1.5	0	1.5	dB
Attenuation at Minimum Volume	$A_{min} V_{OL}$	Vol Ctrl < 0.5V	80			dB
	BW			0.6		Mhz
Total Output Noise	$e_N$	$f = 20Hz$ to 22kHz Play, max volume		500	800	$\mu V$
		$f = 20Hz$ to 22kHz Play, max attenuation		100	250	$\mu V$
		$f = 20Hz$ to 22kHz Mute		60	150	$\mu V$
Slew Rate	SR		5	8		V/ $\mu s$
Input Resistance	$R_i$		22.5	30		K
Variable Output Resistance	$R_{var out}$			30	100	
Variable Output Load	$R_{load var out}$		2			K
Supply Voltage Rejection	SVR	$f = 1kHz$ ; max volume $C_{SVR} = 470\mu F$ ; $V_{RIP} = 1V_{rms}$	35	39		dB
		$f = 1kHz$ ; max attenuation $C_{SVR} = 470\mu F$ ; $V_{RIP} = 1V_{rms}$	55	65		dB
Thermal Muting	$T_M$			150		$^\circ C$
Thermal Shut-Down	$T_S$			160		$^\circ C$

## MUTE STAND- BY &amp; 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	$I_{QST-BY}$			0.6	1	mA
Mute Attenuation	$A_{MUTE}$		50	65		dB
Stand- by Bias Current	$I_{stbyBIAS}$	Stand by on $V_{ST-BY} = 5V$ $V_{MUTE} = 5V$		80		$\mu A$
Mute Attenuation		Play or Mute	-20	-5		$\mu A$
Mute Bias Current	$I_{muteBIAS}$	Mute		1	5	$\mu A$
		Play		0.2	2	$\mu A$

◆ DIP- 20 PACKAGE OUTLINE DIMENSIONS



◆ ORDERING NUMBER

