

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

# TA8218AH

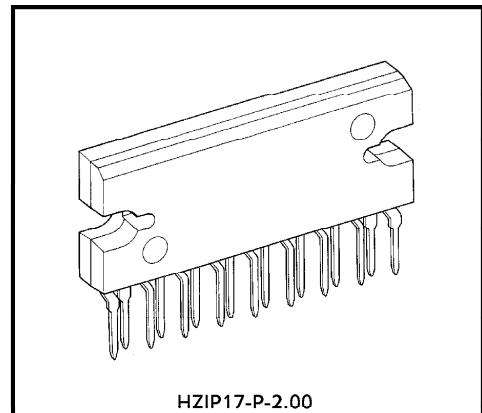
## AUDIO POWER AMPLIFIER

The TA8218AH is 3 channel audio amplifier for consumer applications.

This IC provides an output power of 6 watts per channel. (at  $V_{CC} = 20V$ ,  $f = 1kHz$ ,  $THD = 10\%$ ,  $R_L = 8\Omega$ ) It is suitable for power amplifier of TV and Home stereo.

### FEATURES

- Built-in 3ch amplifier
- High Output power :  $P_{out} = 6W / ch$  (Typ.)  
( $V_{CC} = 20V$ ,  $R_L = 8\Omega$ ,  $f = 1kHz$ ,  $THD = 10\%$ )
- Low Noise :  $V_{NO} = 0.14mV_{rms}$  (Typ.)  
( $V_{CC} = 20V$ ,  $R_L = 8\Omega$ ,  $G_V = 34dB$ ,  $R_g = 10k\Omega$ ,  $BW = 20Hz \sim 20kHz$ )
- Built in Audio Muting Circuit (Active→Low)  
Main Amp / Surround Amp independent Control.
- Built in Various protection Circuits  
Protection Circuit : Thermal Shut Down, Over Voltage, Out→GND Short.
- Operation Supply Voltage Range :  $V_{CC(opr)} = 10 \sim 30V$  ( $T_a = 25^\circ C$ )



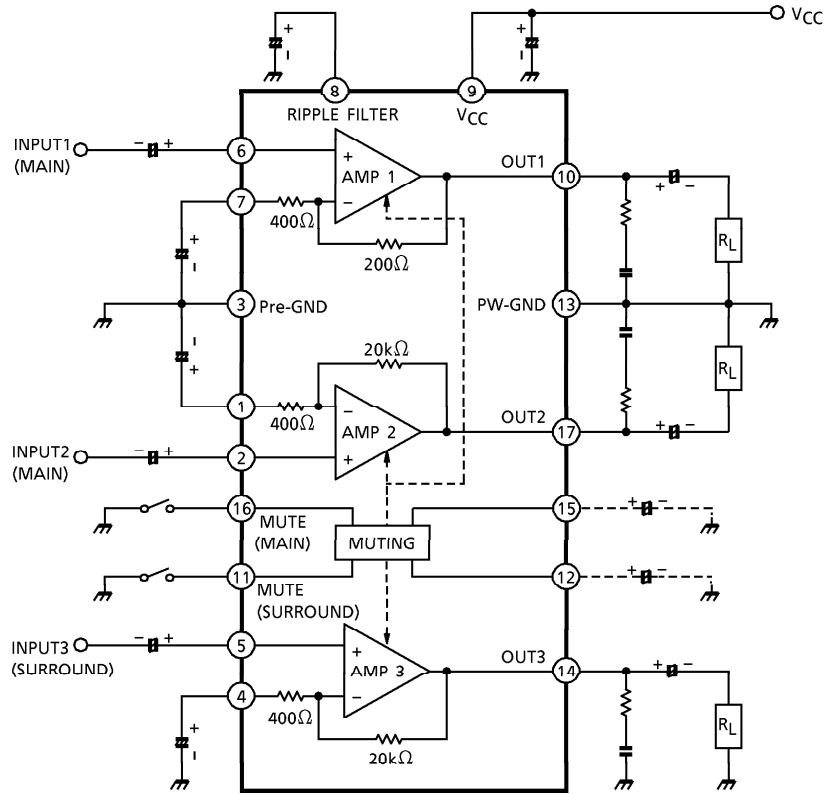
HZIP17-P-2.00

Weight : 9.8g (Typ.)

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BLOCK DIAGRAM



**MAXIMUM RATINGS** (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V <sub>CC</sub>	30	V
Output Current (Peak / CH)	I <sub>O (peak)</sub>	2.0	V
Power Dissipation	P <sub>D</sub> (Note)	50	W
Operating Temperature	T <sub>opr</sub>	- 20~75	°C
Storage Temperature	T <sub>stg</sub>	- 55~150	°C

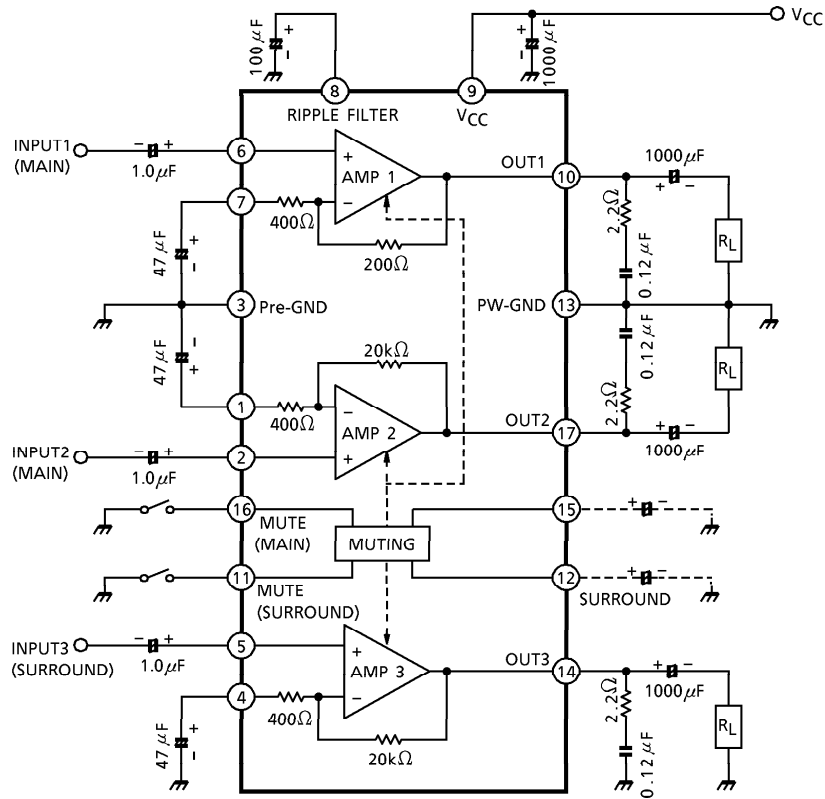
(Note) Derated above Ta = 25°C in the proportion of 400mW / °C.

**ELECTRICAL CHARACTERISTICS**

(Unless otherwise specified, V<sub>CC</sub> = 20V, R<sub>L</sub> = 8Ω, R<sub>G</sub> = 600Ω, f = 1kHz, Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	I <sub>CCQ</sub>	—	V <sub>in</sub> = 0	40	90	160	mA
Output Power	P <sub>out</sub> (1)	—	THD = 10%	5.0	6.0	—	W
	P <sub>out</sub> (2)	—	THD = 1%	—	4.5	—	
Total Harmonic Distortion	THD	—	P <sub>out</sub> = 2W	—	0.1	0.6	%
Voltage Gain	G <sub>V</sub>	—	V <sub>out</sub> = 0.775V <sub>rms</sub> (0dBm)	32.5	34.0	35.5	dB
Input Resistance	R <sub>IN</sub>	—	—	—	30	—	kΩ
Ripple Rejection Ratio	R.R.	—	R <sub>G</sub> = 0, f <sub>ripple</sub> = 100Hz V <sub>ripple</sub> = 0.775V <sub>rms</sub> (0dBm)	- 50	- 60	—	dB
Output Noise Voltage	V <sub>no</sub>	—	R <sub>G</sub> = 10kΩ, BW = 20Hz~20kHz	—	0.14	0.3	mV <sub>rms</sub>
Cross Talk	C.T.	—	R <sub>G</sub> = 0, V <sub>out</sub> = 0.775V <sub>rms</sub> (0dBm) Two channels input	—	- 60	—	dB
Muting Threshold Voltage	V <sub>TH</sub> (OFF)	—	Mute ON ⑪ / ⑩pin	—	3.7	4.0	V
	V <sub>TH</sub> (ON)	—	Mute OFF ⑪ / ⑩pin	2.5	2.8	—	
Muting Attenuation	ATT	—	V <sub>out</sub> = 0.775V <sub>rms</sub> → Mute Three channels input	- 52	- 60	—	dB

TEST CIRCUIT



- (\*1) ⑩ / ⑪ PIN LOW : MUTE ON  
 MUTE ON :  $V_{TH} \text{ ⑩ / ⑪ } = 2.8V$  (Typ.) ( $V_{CC} = 20V, T_a = 25^\circ C$ )  
 MUTE OFF :  $V_{TH} \text{ ⑩ / ⑪ } = 3.7V$  (Typ.) ( $V_{CC} = 20V, T_a = 25^\circ C$ )
- (\*2) The Capacitor for reducing Pop noise at mute ON.

