

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8218AH

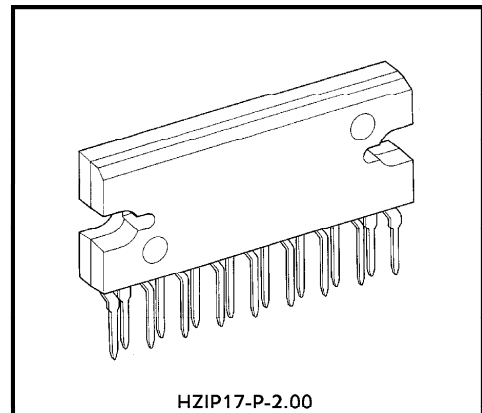
AUDIO POWER AMPLIFIER

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 : $V_{CC(opr)} = 10 \sim 30V$ ($T_a = 25^\circ C$)

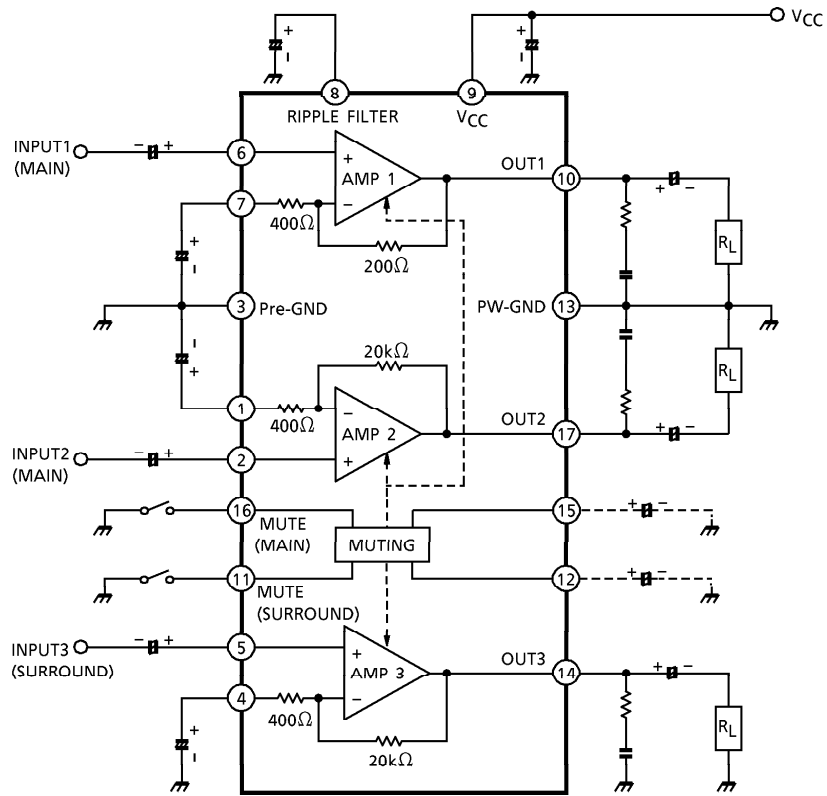


Weight : 9.8g (Typ.)

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BLOCK DIAGRAM



MAXIMUM RATINGS (Ta = 25°C)

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

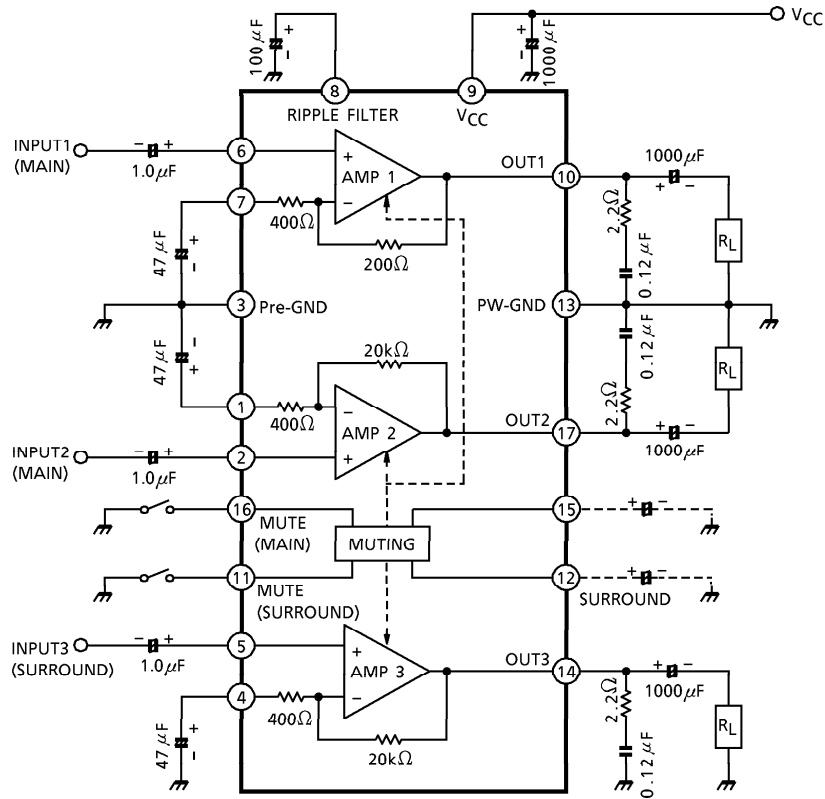
(Note) Derated above Ta = 25°C in the proportion of 400mW / °C.

ELECTRICAL CHARACTERISTICS

(Unless otherwise specified, V_{CC} = 20V, R_L = 8Ω, R_G = 600Ω, f = 1kHz, Ta = 25°C)

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

