

T-74-05-01

KA2210**LINEAR INTEGRATED CIRCUIT****5.5W DUAL POWER AMPLIFIER**

The KA2210 is a monolithic integrated circuit consisting of 2 channel power amplifier. It is suitable for stereo and bridge amplifier application of car stereo.

FEATURES

- 2 channel amplifier: 5.5W×2 (Typ).
- Minimum number of external parts required.
- Small shock noise at the time of power on/off and good starting balance.
- High ripple rejection ratio: 46dB (Typ).
- Good channel separation.
- Small residual noise. ($R_g=0$)
- Included various kind of protectors.
 - Thermal protector.
 - Surge and over-voltage protector.
 - V_{cc} and output short protector.

12 SIP H/S

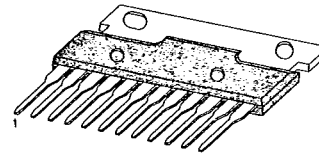
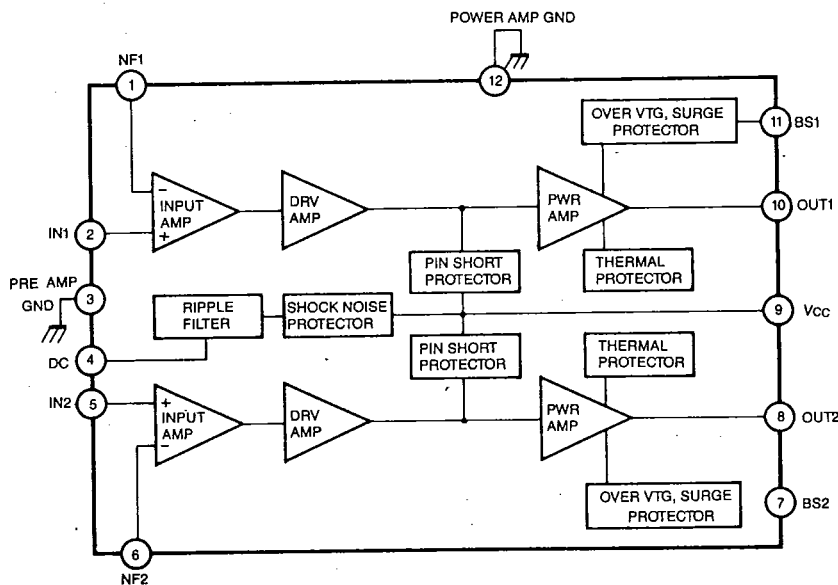
**BLOCK DIAGRAM**

Fig. 1



SAMSUNG SEMICONDUCTOR

KA2210

LINEAR INTEGRATED CIRCUIT

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Value	Unit
Maximum Supply Voltage (Quiescent)	V_{CC} (max 1)	25	V
Maximum Supply Voltage (with Signal)	V_{CC} (max 2)	18	V
Surge Voltage ($t \leq 0.2$ sec)	V_{CC} (Surge)	50	V
Maximum Output Current (1 Channel)	I_o (peak)	3.5	A
Power Dissipation	P_d (max)	15	W
Operating Temperature	T_{opr}	$-20 \sim +75$	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-40 \sim +150$	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

($T_a = 25^\circ\text{C}$, $V_{CC} = 13.2\text{V}$, $R_L = 4\Omega$, $f = 1\text{KHz}$, $R_g = 600\Omega$, $100 \times 100 \times 1.5\text{mm}^3$ Al H/S unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Operating Supply Voltage	V_{CC}		10	13.2	16	V
Quiescent Circuit Current	I_{CC}	$V_i = 0$		75	150	mA
Output Power	P_o	THD = 10%, Stereo	5.0	5.5		W
Voltage Gain	A_v	$P_o = 1\text{W}$	49.5	51.5	53.5	dB
Total Harmonic Distortion	THD	$P_o = 1\text{W}$		0.15	1.0	%
Input Resistance	R_i			30		$\text{K}\Omega$
Output Noise Voltage	V_{NO}	$R_g = 0$, BW(-3dB) = 20Hz 20KHz		0.6	1.0	mV
		$R_g = 10\text{K}\Omega$, BW(-3dB) = 20Hz 20KHz		1.0	2.0	mV
Ripple Rejection Ratio	RR	$R_g = 0$, $V_r = 200\text{mV}$, $f = 100\text{Hz}$		46		dB
Channel Separation	Sep	$R_g = 10\text{K}\Omega$, $V_o = 0\text{dBm}$	45	55		dB

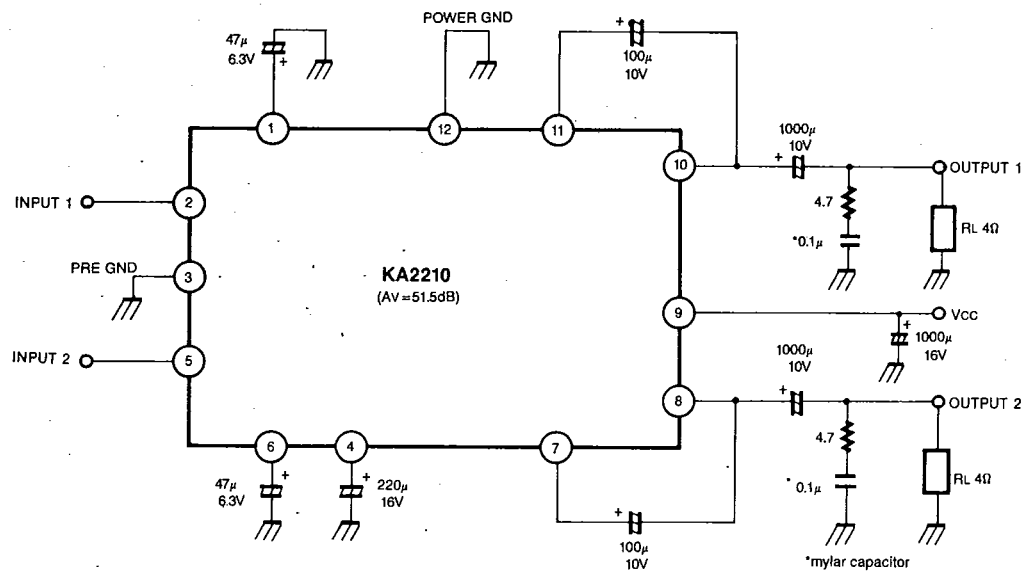


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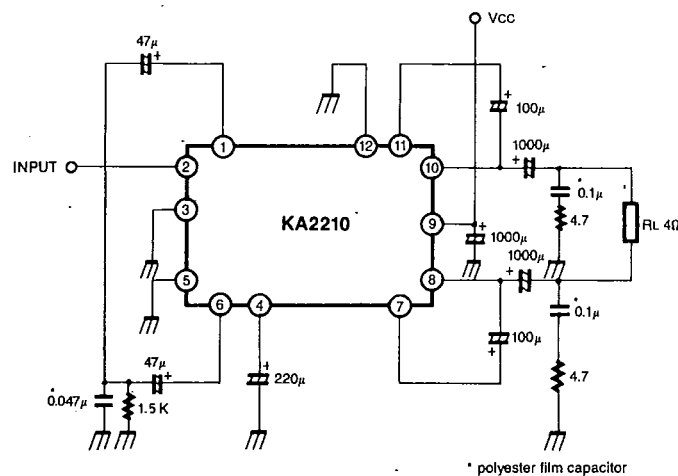
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LINEAR INTEGRATED CIRCUIT

TYPICAL APPLICATION CIRCUIT: STEREO



APPLICATION CIRCUIT: BRIDGE

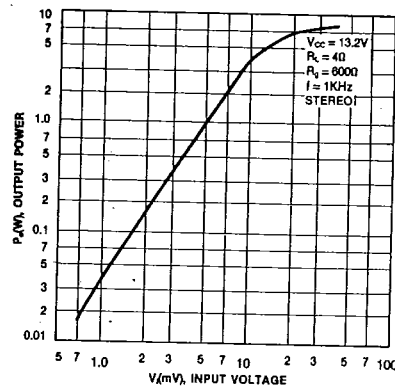


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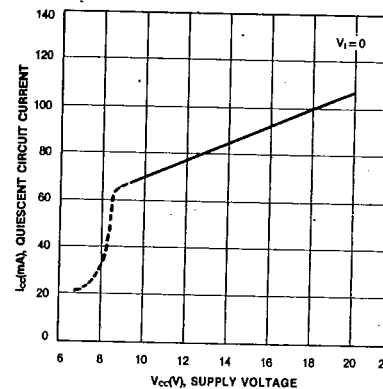
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LINEAR INTEGRATED CIRCUIT

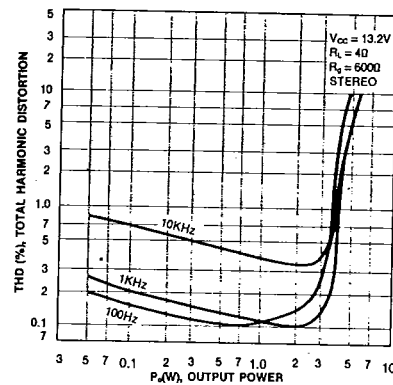
OUTPUT POWER-INPUT VOLTAGE



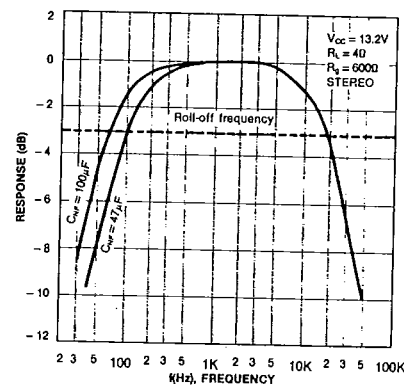
QUIESCENT CIRCUIT CURRENT-SUPPLY VOLTAGE



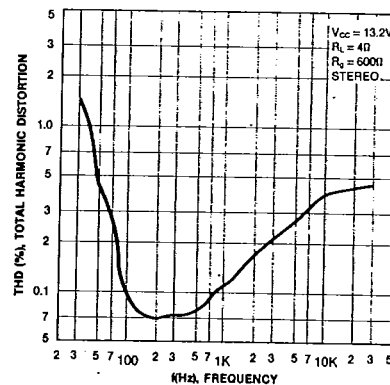
TOTAL HARMONIC DISTORTION-OUTPUT POWER



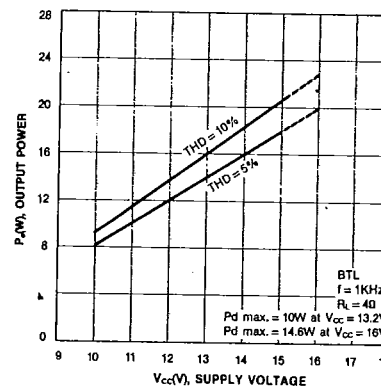
FREQUENCY RESPONSE



TOTAL HARMONIC DISTORTION-FREQUENCY



OUTPUT POWER-SUPPLY VOLTAGE

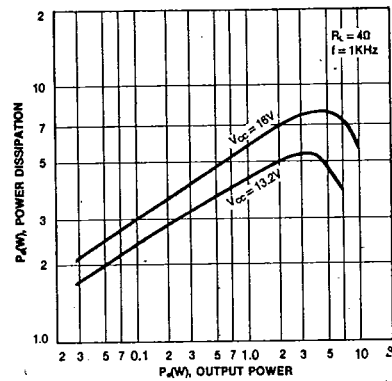


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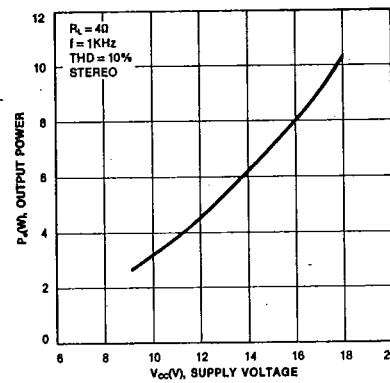
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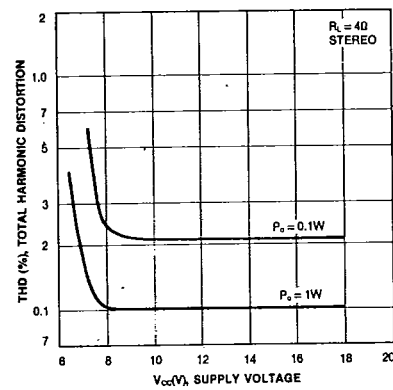
POWER DISSIPATION-OUTPUT POWER



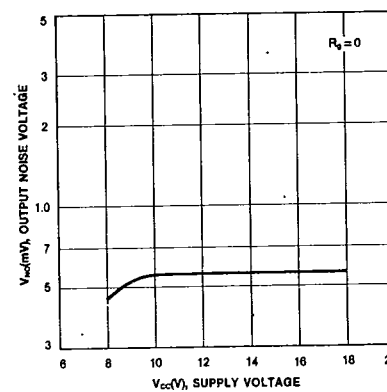
OUTPUT POWER-SUPPLY VOLTAGE



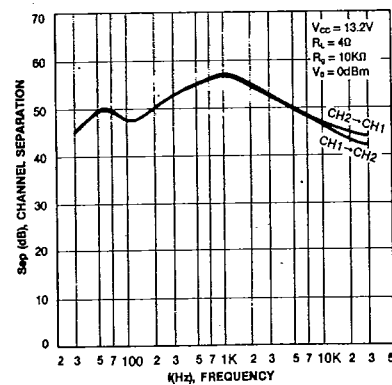
TOTAL HARMONIC DISTORTION-SUPPLY VOLTAGE



OUTPUT NOISE VOLTAGE-SUPPLY VOLTAGE



CHANNEL SEPARATION-FREQUENCY



SAMSUNG SEMICONDUCTOR