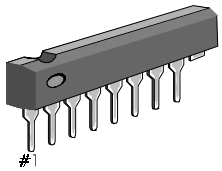
INTRODUCTION

The KA1222 is a monolithic integrated circuit consisting of a 2-channel pre-amplifier in a 8-pin plastic single in line package. The minimum operating voltage is 2.5V, Making it suitable for low voltage application.

8–SIP



FEATURES

- Wide operating supply voltage: V_{DD} = 2. 5V ~ 6V
- Low noise (V_{HI} = 1.0μV: Typ)
- High channel separation
- Good ripple rejection ratio
- Minimum number of external parts required

ORDERING INFORMATION

Device	Package	Operating Temperature
KA1222	8-SIP	–20°C ~ +70°C

BLOCK DIAGRAM

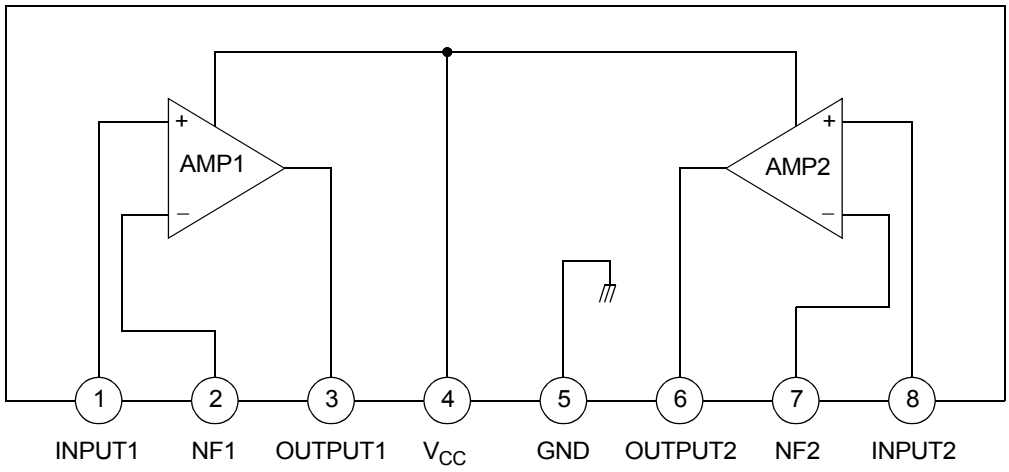


Figure 1.

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	7.5	V
Power Dissipation	P_D	200	mW
Operating Temperature	T_{OPR}	– 20 ~ +70	°C
Storage Temperature	T_{STG}	– 40 ~ +125	°C

ELECTRICAL CHARACTERISTICS

(Ta = 25°C, V_{CC} = 4V, R_L = 10kΩ, R_G = 600Ω, f = 1kHz, NAB, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Quiescent Circuit Current	I_{CCQ}	V_I = 0	–	2.0	6.0	mA
Open Loop Voltage Gain	G_{VO}	–	65	80	–	dB
Closed Loop Voltage Gain	G_{VC}	V_O = 0.2V	33	35	37	dB
Output Voltage	V_O	THD = 1%	0.4	0.7	–	V
Total Harmonic Distortion	THD	V_O = 0.2V	–	0.1	0.3	%
Input Resistance	R_I	–	–	150	–	kΩ
Equivalent Input Noise Voltage	V_{NI}	R_G = 2.2kΩ BW (–3dB) = 15Hz ~ 30kHz	–	1.0	2.0	V
Cross Talk	CT	R_G = 2. 2kΩ	50	65	–	dB

TEST CIRCUIT

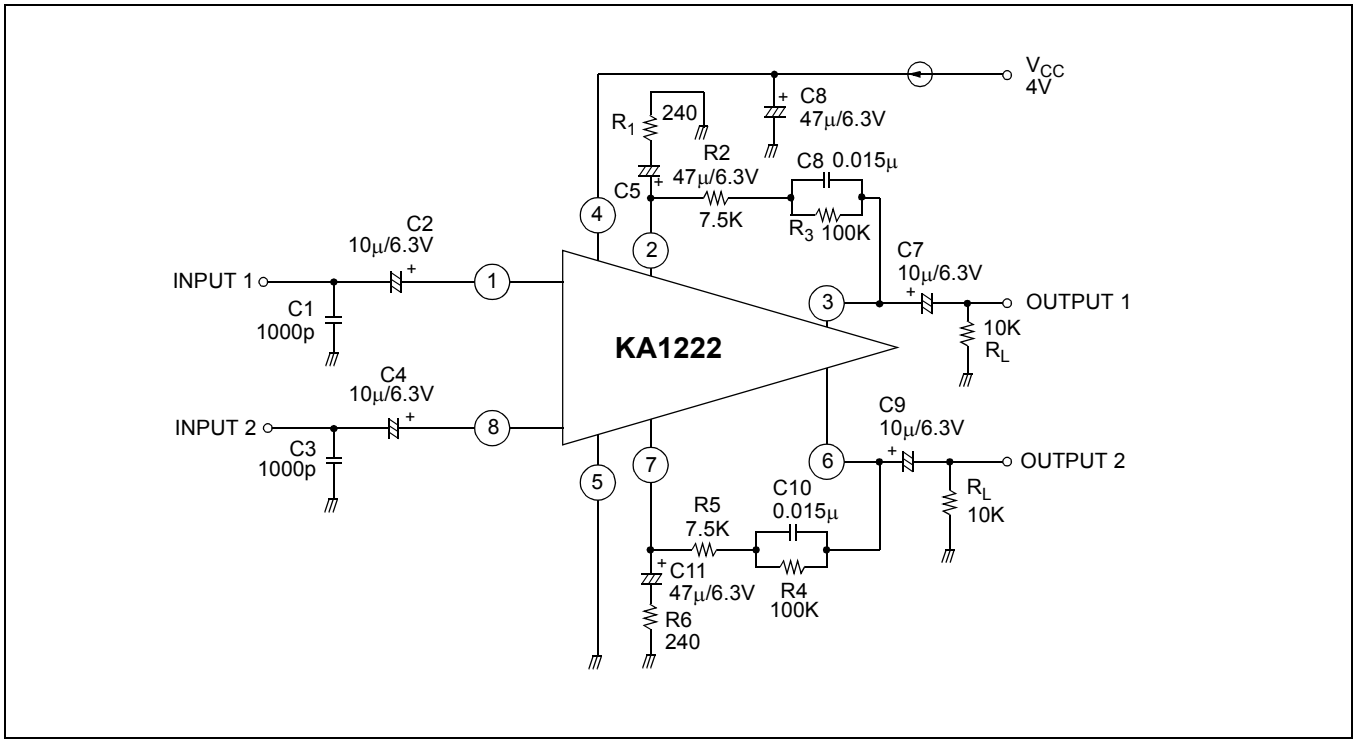
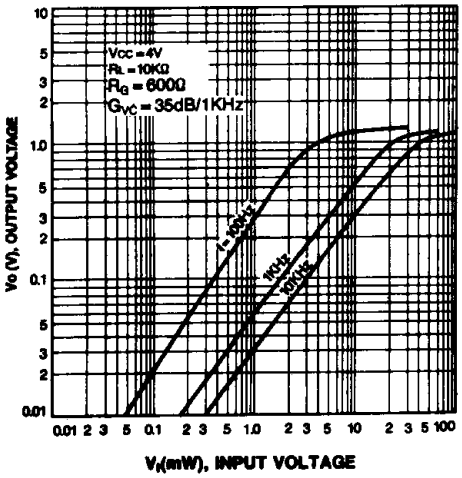
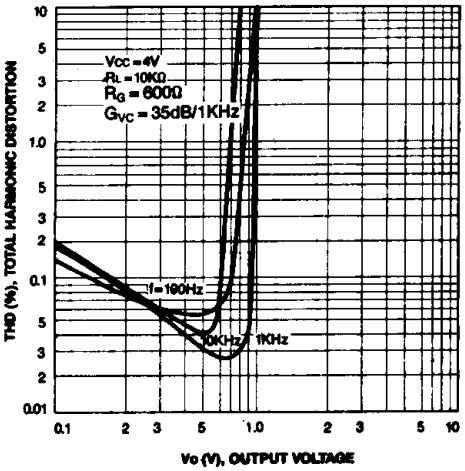


Figure 2.

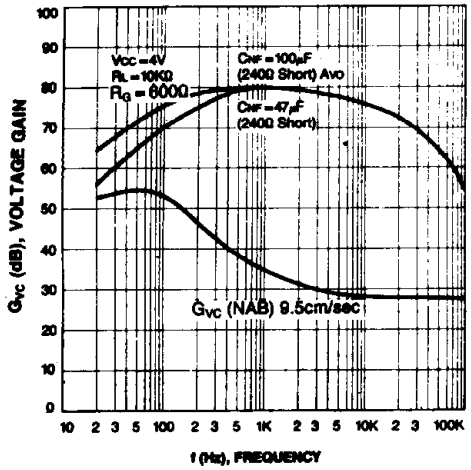
OUTPUT VOLTAGE-INPUT VOLTAGE



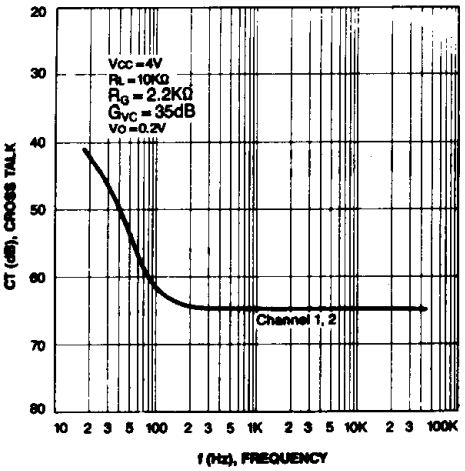
TOTAL HARMONIC DISTORTION-OUTPUT VOLTAGE



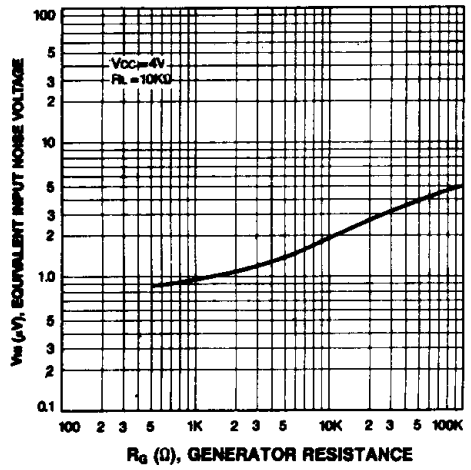
VOLTAGE GAIN-FREQUENCY



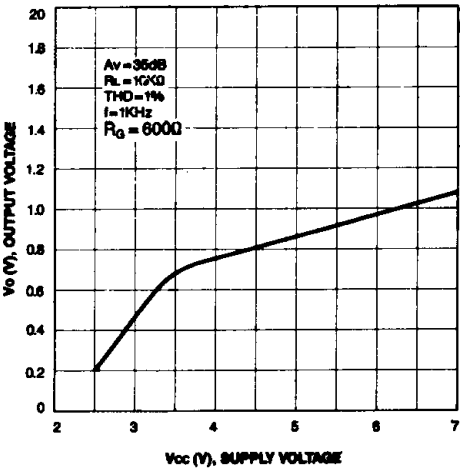
CROSS TALK-FREQUENCY



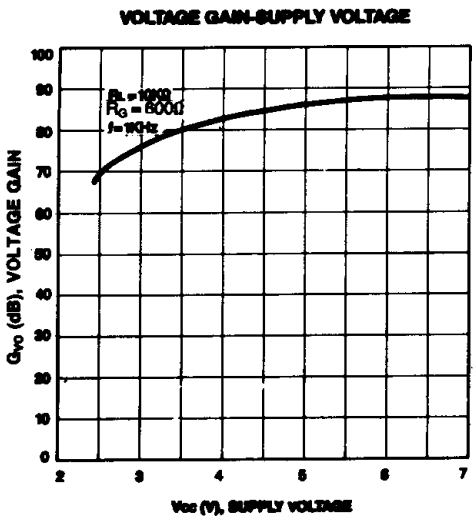
EQUIVALENT INPUT NOISE VOLTAGE
GENERATOR RESISTANCE

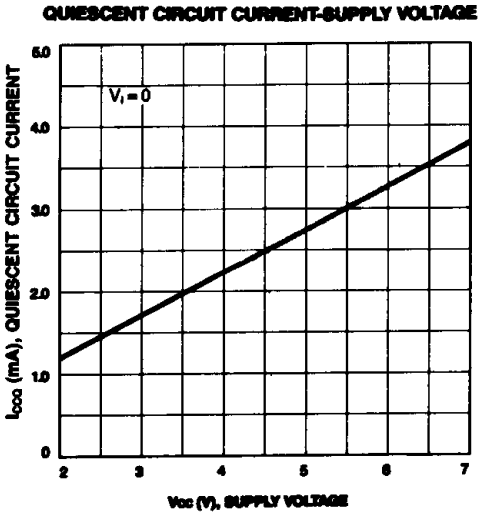


OUTPUT VOLTAGE-SUPPLY VOLTAGE



SAMSUNG ELECTRONICS





APPLICATION CIRCUIT

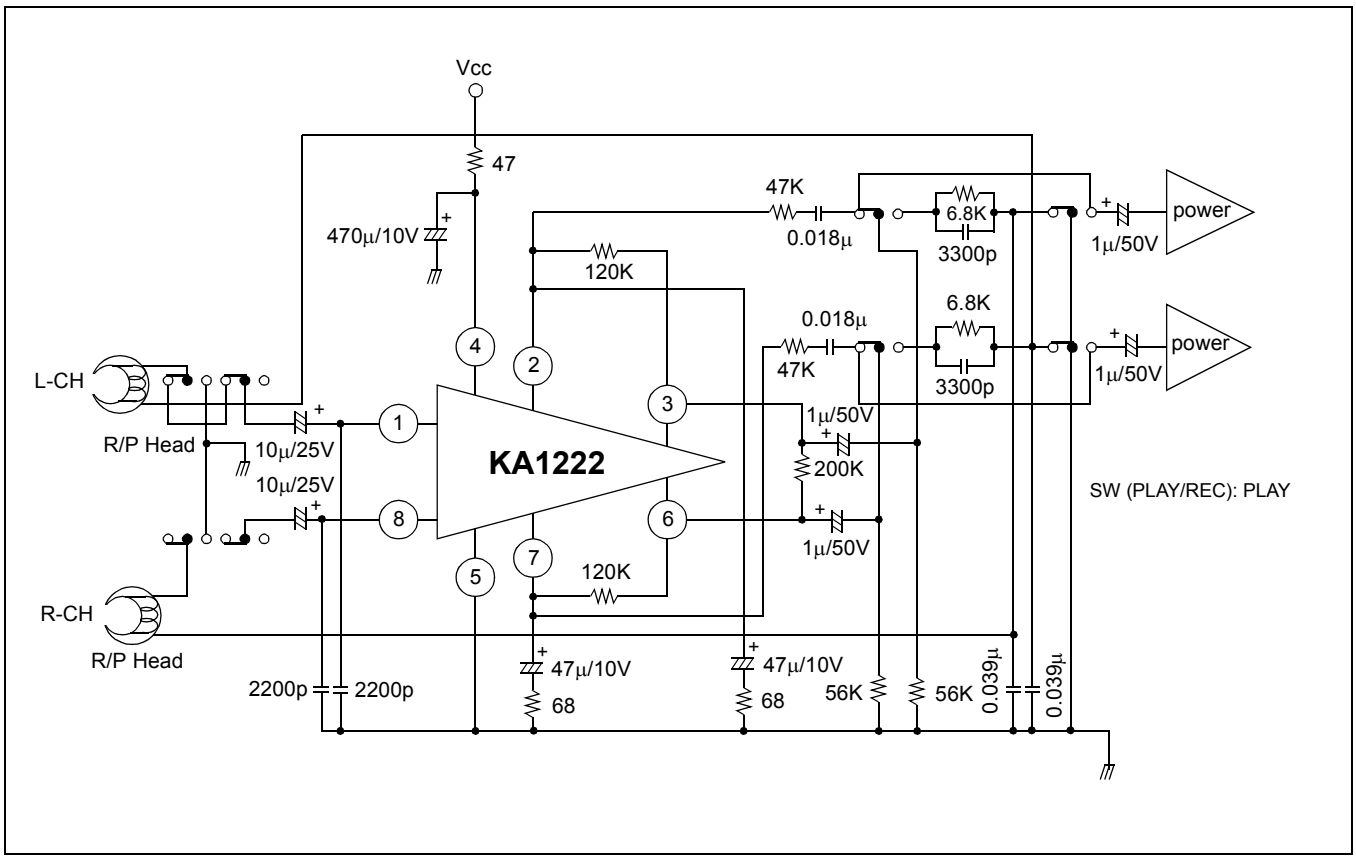


Figure 3.

NOTES