

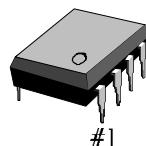
INTRODUCTION

The S1A2201X01 is a monolithic integrated audio amplifier. It is designed for the audio frequency class B amplifier.

FEATURES

- Wide range of operating supply voltage:
 $V_{CC} = 3V - 14V$
- Medium output power
- $P_O = 1.2W$ at $V_{CC} = 9V$, $R_L = 8\Omega$, THD = 10%
- Low quiescent circuit current ($I_{CCQ} = 4mA$: Typ)
- Good ripple rejection
- Minimum number of external parts required

8-DIP-300



ORDERING INFORMATION

Device	Package	Operating Temperature
S1A2201X01-D0B0	8-DIP-300	-20°C – + 70°C

BLOCK DIAGRAM

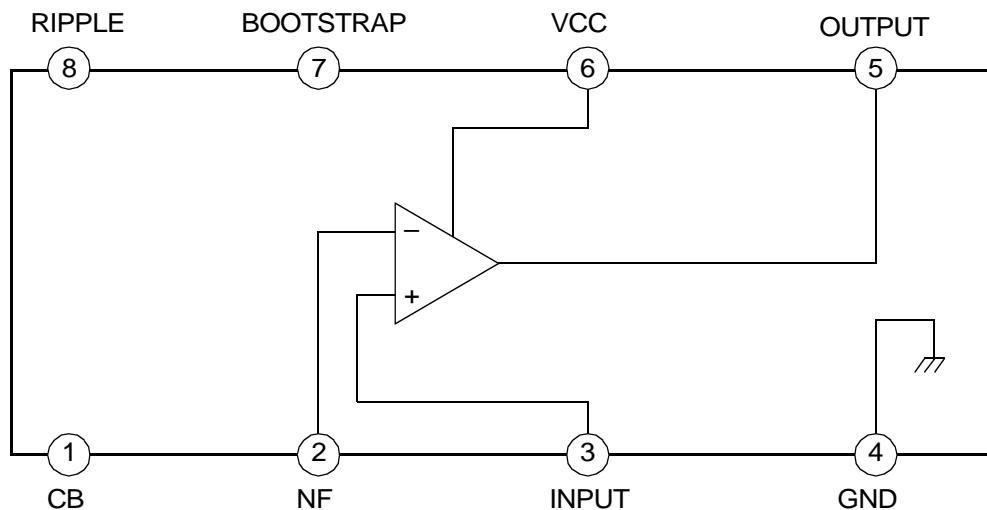


Figure 1.

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V _{CC}	16	V
Output Peak Current	I _{PK}	1.5	A
Power Dissipation	P _D	1.25	W
Operating Temperature	T _{OPR}	- 20 — + 70	°C
Storage Temperature	T _{STG}	- 40 — + 150	°C

ELECTRICAL CHARACTERISTICS(Ta = 25°C, V_{CC} = 9V, f = 1kHz, R_G = 600Ω, R_F = 120Ω, R_L = 8Ω, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Quiescent Circuit Current	I _{CCQ}	V _I = 0	—	4	12	mA
Output Power	P _O	V _{CC} = 9V, R _L = 4Ω, THD = 10%	—	1.6	—	W
		V _{CC} = 9V, R _L = 8Ω, THD = 10%	0.9	1.2	—	
		V _{CC} = 6V, R _L = 4Ω, THD = 10%	—	0.75	—	
		V _{CC} = 6V, R _L = 8Ω, THD = 10%	0.4	0.5	—	
		V _{CC} = 12V, R _L = 8Ω, THD = 10%	—	2	—	
Total Harmonic Distortion	THD	P _O = 500mW	—	0.3	1.0	%
Open Loop Voltage Gain	G _{VO}	R _F = 0Ω	—	75	—	dB
Closed Loop Voltage Gain	G _{VC}	R _F = 120Ω	33	36	39	dB
Input Resistance	R _I	—	—	5	—	MΩ
Output Noise Voltage	V _{NO}	R _G = 10kΩ BW (-3dB) = 50Hz – 20kHz	—	0.3	1.0	mV

TEST CIRCUIT

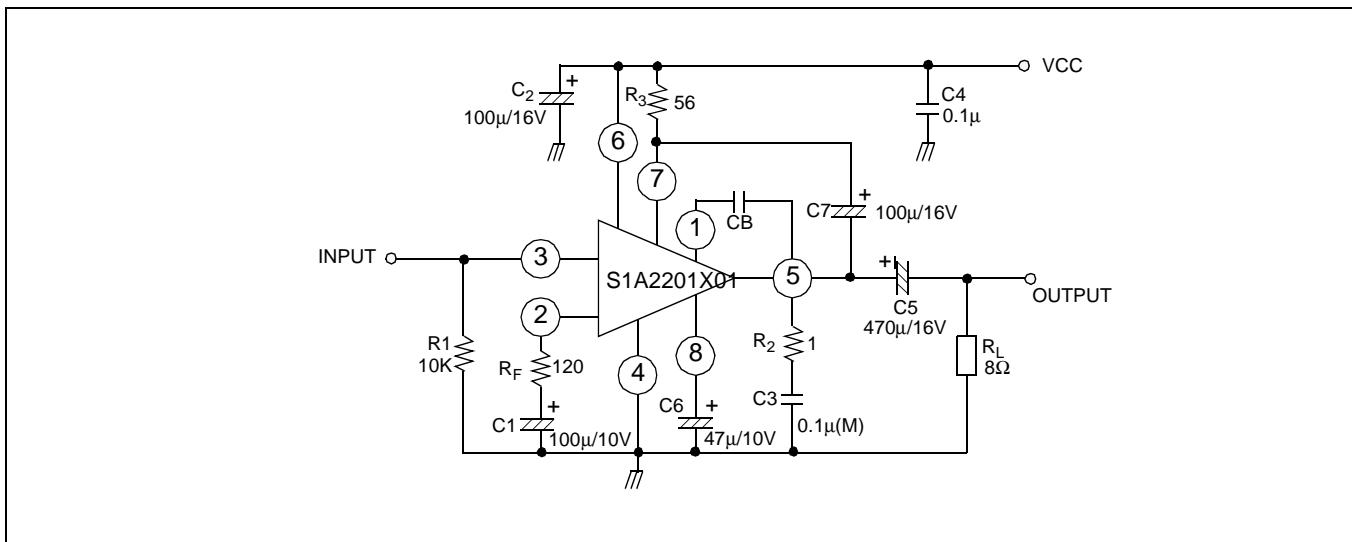
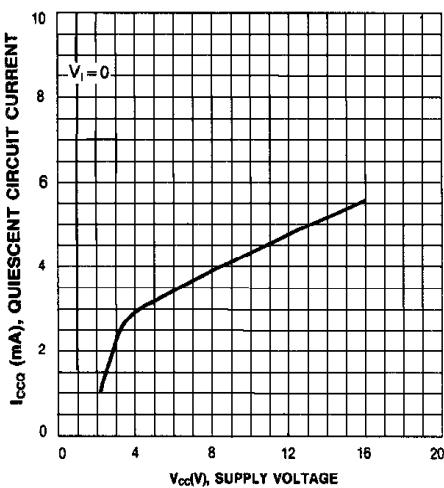
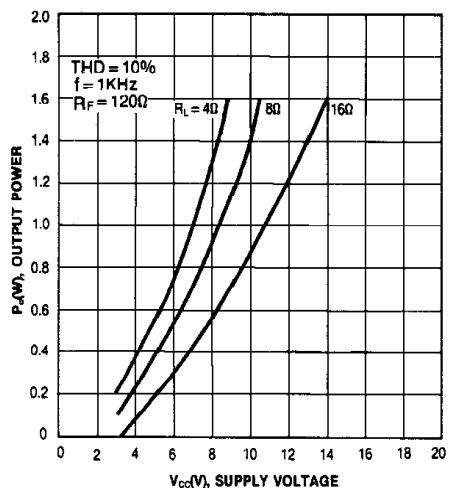


Figure 2.

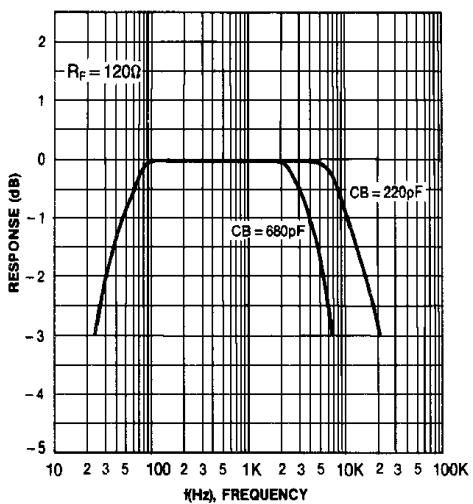
QUIESCENT CIRCUIT CURRENT--SUPPLY VOLTAGE



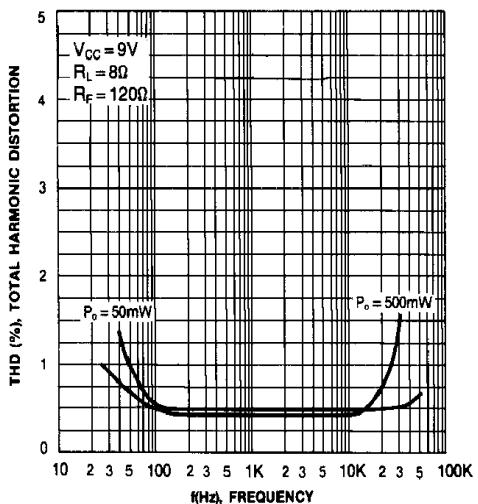
OUTPUT POWER-SUPPLY VOLTAGE



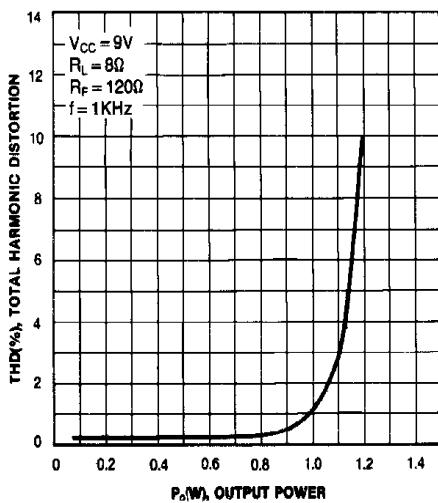
FREQUENCY RESPONSE



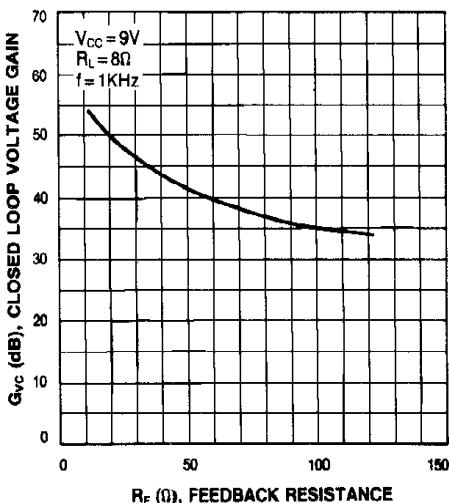
TOTAL HARMONIC DISTORTION-FREQUENCY



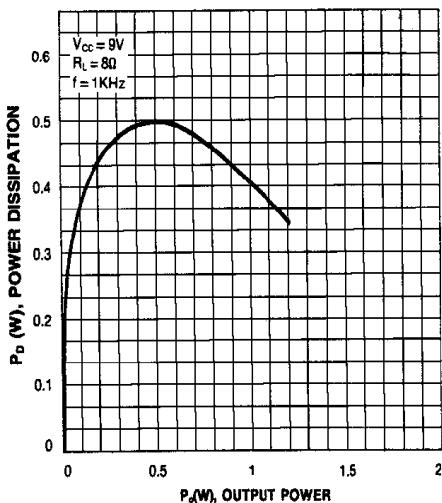
TOTAL HARMONIC DISTORTION-OUTPUT POWER



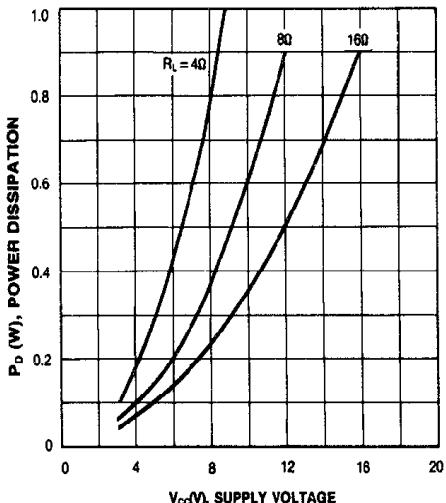
VOLTAGE GAIN-FEEDBACK RESISTANCE



POWER DISSIPATION-OUTPUT POWER



POWER DISSIPATION-SUPPLY VOLTAGE



ELECTRONICS