

LOW VOLTAGE AUDIO POWER AMP

KA386B

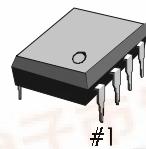
INTRODUCTION

The KA386B/BD/BS is a power amplifier designed for use in low voltage consumer applications. The gain is internally set to 20 to keep the external part count low, but the addition of an external resistor and Capacitor between Pin 1 and 8 will increase the gain to any value up to 200.

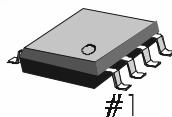
FEATURES

- Battery operation
- Minimum external parts
- Wide supply voltage range:
4V ~ 12V (KA386B)
4V ~ 9V (KA386BS/D)
- Low quiescent current drain (4mA)
- Voltage gains: 20 ~ 200dB
- Ground referenced Input
- Self-centering output quiescent voltage
- Low distortion
- 3 different of package types
KA386B (8 DIP), KA386BS (9 SIP), KA386BD (8 SOP)

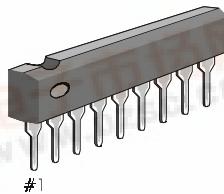
8-DIP-300



8-SOP-225



9-SIP



ORDERING INFORMATION

Device	Package	Operating Temperature
KA386B	8-DIP-300	-20°C ~ + 70°C
KA386BS	9-SIP	
KA386BD	8-SOP-225	

BLOCK DIAGRAM

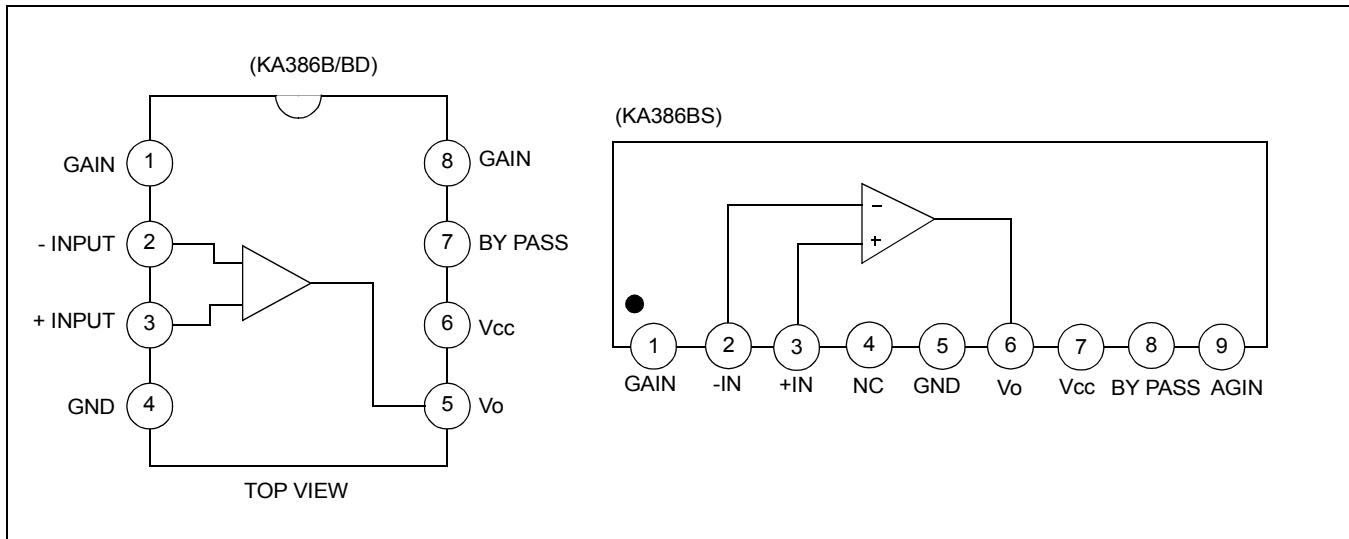


Figure 1.

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

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	15	V
Power Dissipation	P_D	660	mW
		500	
		300	
Input Voltage	V_I	± 0.4	V
Operating Temperature	T_{OPR}	-20~+70	$^\circ\text{C}$
Storage Temperature	T_{STG}	-40 ~ + 125	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

(Ta = 25°C, V_{CC} = 6V, R_L = 8Ω, f = 1kHz, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Quiescent Circuit Current	I _{CCQ}	V _I = 0	—	4	8	mA
Output Power	P _O	V _{CC} = 6 V, THD = 10% V _{CC} = 9 V, THD = 10%	250 500	325 200	—	mW mW
Voltage Gain	G _V	Pins 1 and 8 Open 10F from Pin 1 to 8	—	26 46	—	dB
Bandwidth	BW	Pins 1 and 8 Open 10μF from Pin 1 to 8	—	300 60	—	kHz
Total Harmonic Distortion (D-Type)	THD	P _O = 125 mW, Pins 1 and 8 Open	—	0.2	—	%
Input Resistance	R _I	—	—	50	—	kΩ
Input Bias Current	I _{BIAS}	Pins 1 and 8 Open	—	250	—	nA

APPLICATION CIRCUIT

Amplifier with Gain = 50 (34 dB)

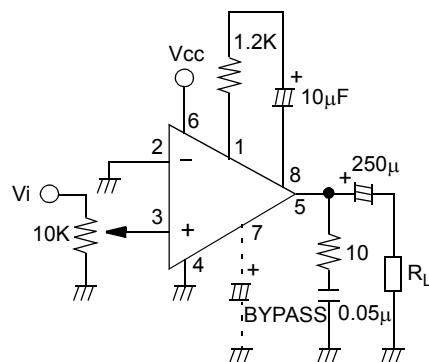


Figure 2.

NOTES



ELECTRONICS