DATA SHEET

LinearDimensions
SEMICONDUCTOR

LND386

LOW VOLTAGE AUDIO POWER AMPLIFIER

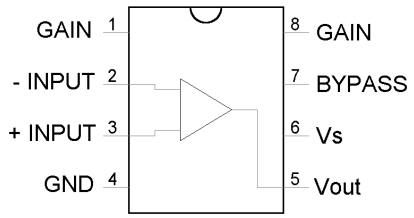
GENERAL DESCRIPTION

The LND386 is a power amplifier designed for use in low voltage consumer applications. The gain is internally set to 20 to keep external part count low, but the addition of an external resistor and capacitor between pins 1 and 8 will increase the gain to any value up to 200. The inputs are ground referenced while the output is automatically biased to one half the supply voltage. The quiescent power drain is only 24 milliwatts when operating from a 6 volt supply, making the LND386 ideal for battery operation.

FEATURES

- Battery operation
- Minimum external parts
- Wide supply voltage range 4V to 12V
- Low quiescent current drain 4mA (Typ)
- Voltage gains: 20-200
- Ground reference output
- Self-centering output quiescent voltage
- Low distortion

PIN CONFIGURATION



APPLICATIONS

- AM-FM radio amplifiers
- Portable tape player amplifiers
- Intercoms
- TV sound system
- Line Drivers
- Ultrasonic drivers
- Small servo drivers
- Power converters

Absolute Maximum Rating

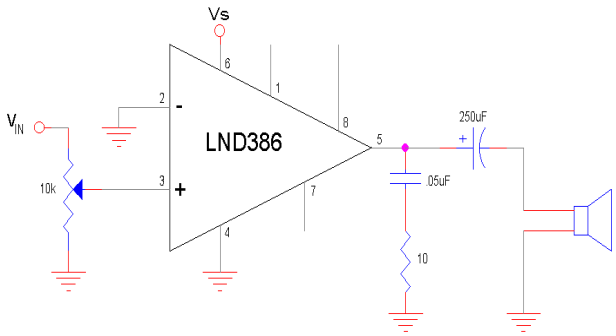
PARAMETER	SYMBOL	MAXIMUM	UNITS
Supply voltage	V_{cc}	15	V
Power dissipation	P_D	660	mW
Input voltage	V_{in}	±0.4	V
Junction temperature	Tj	+150	ºC
Operating temperature	T_{OPR}	-20...+70	ºC
Storage temperature	T_{STG}	-40...+125	ºC

Electrical Characteristics

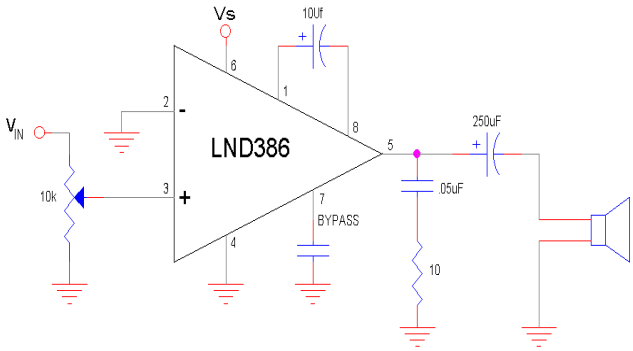
(T_A =25ºC, V_{CC}=6V,R_L = 8Ω, f = 1KHz, unless otherwise specified)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Quiescent Current	I_{CCQ}	V_{IN} = 0		4	8	mA
Output Power	P_{OUT}	V_{CC}=6V, THD=10%	250	325		mW
		V_{CC}=9V, THD=10%	500	700		
Voltage Gain	Av	Pins 1and 8 Open		26		dB
		10µF from Pin 1 to 8		46		
Bandwidth	BW	Pins 1 and 8 Open		300		KHz
		10µF from Pin 1 to 8		60		
Total Harmonic Distortion	THD	P_{out}=125mW, Pins 1 and 8 Open		0.2		%
Power Supply Rejection Ratio	PSRR	C_{bypass}=10µF, Pins 1 and 8 Open, Referred to output		50		dB
Input Resistance	R_{IN}			50		kΩ
Input Bias Current	I_{BIAS}	Pins 2 and 3 Open		250		nA

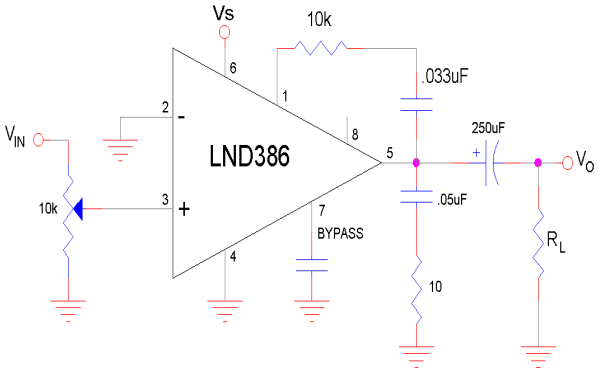
Typical Applications



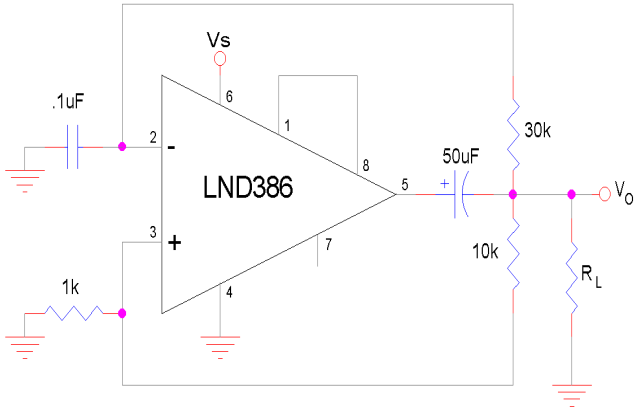
Amplifier with Gain = 20 (Minimum parts)



Amplifier with Gain = 200



Amplifier with Bass Boost



Square Wave Oscillator