



**LinearDimensions**  
SEMICONDUCTOR

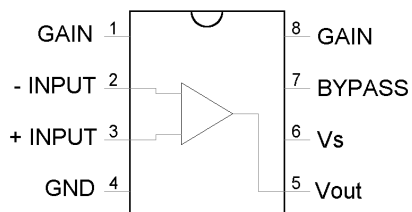
**LND386**

## 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.

### PIN CONFIGURATION



### 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

### 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	$V_{in}$	$\pm 0.4$	V
Junction temperature	$T_j$	+150	$^{\circ}C$
Operating temperature	$T_{OPR}$	-20...+70	$^{\circ}C$
Storage temperature	$T_{STG}$	-40...+125	$^{\circ}C$

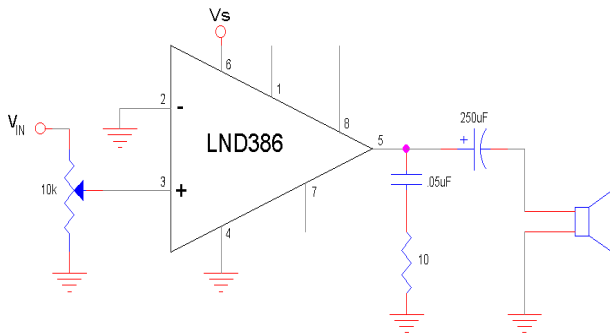
## Electrical Characteristics

( $T_A = 25^{\circ}C$ ,  $V_{CC} = 6V$ ,  $R_L = 8\Omega$ ,  $f = 1KHz$ , unless otherwise specified)

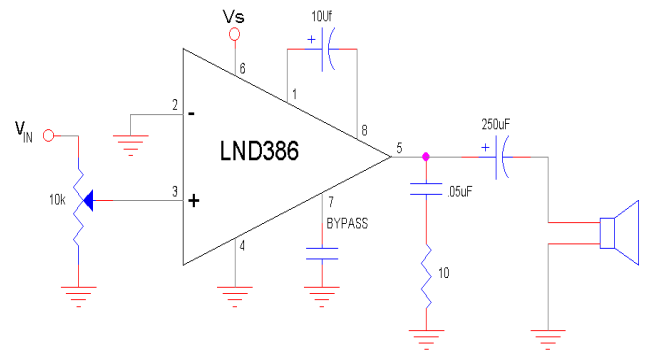
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Quiescent Current	$I_{CCQ}$	$V_{IN} = 0$		4	8	mA
Output Power	$P_{OUT}$	$V_{CC} = 6V$ , THD=10%	250	325		mW
		$V_{CC} = 9V$ , THD=10%	500	700		
Voltage Gain	$A_v$	Pins 1 and 8 Open		26		dB
		10 $\mu$ F from Pin 1 to 8		46		
Bandwidth	BW	Pins 1 and 8 Open		300		KHz
		10 $\mu$ F 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	$C_{bypass} = 10\mu F$ , Pins 1 and 8 Open, Referred to output		50		dB
Input Resistance	$R_{IN}$			50		k $\Omega$
Input Bias Current	$I_{BIAS}$	Pins 2 and 3 Open		250		nA



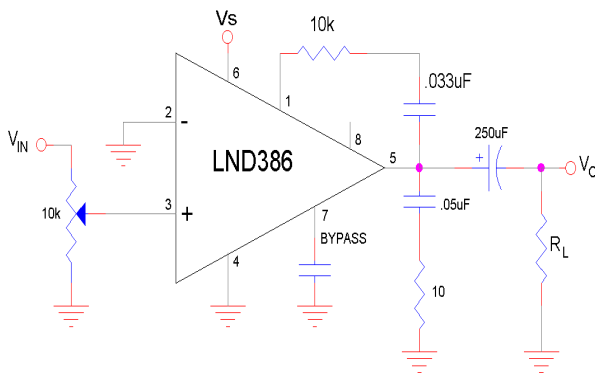
### Typical Applications



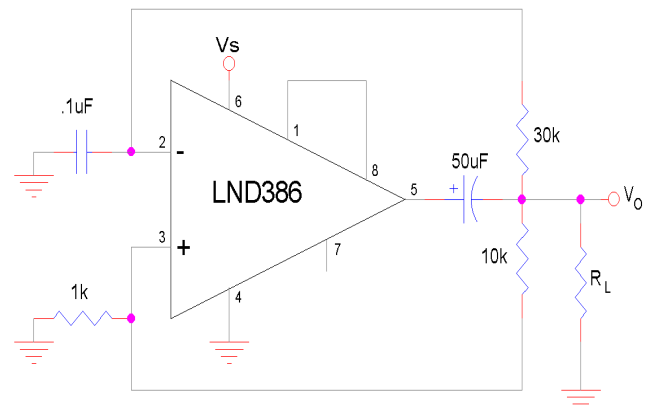
Amplifier with Gain = 20 (Minimum parts)



Amplifier with Gain = 200



Amplifier with Bass Boost



Square Wave Oscillator