

# LM386N

# LINEAR INTEGRATED CIRCUIT

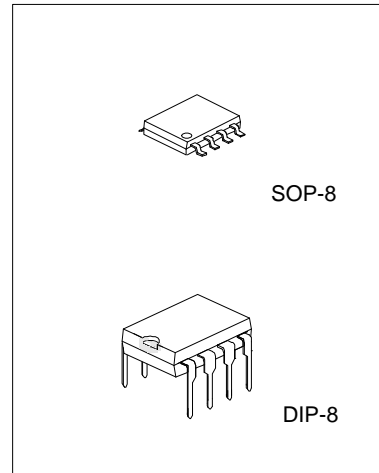
## LOW VOLTAGE AUDIO POWER AMPLIFIER

### DESCRIPTION

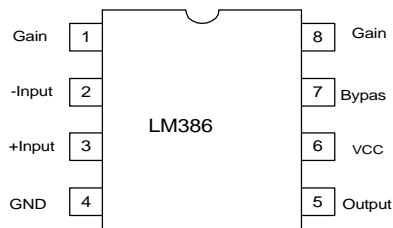
The LM386 is a power amplifier, designed for use in low voltage consumer applications. The gain is internally set to 20 keep the external part count low, but the additional of external resistor and capacitor between pin 1 and pin 8 will increase the gain to any value up to 200.

### FEATURES

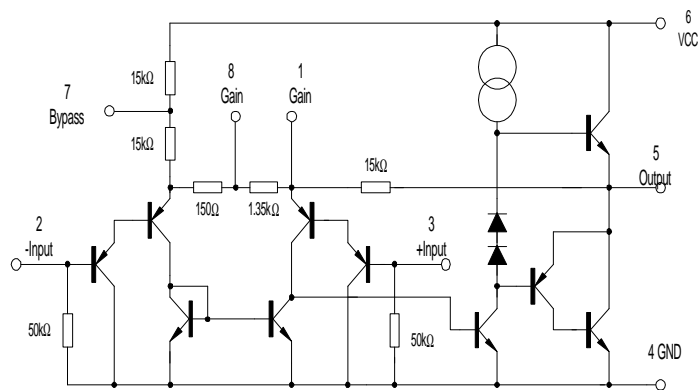
- \*Minimum external parts
- \*Wide supply voltage range: 4V~12V
- \*Voltage gains:20~200
- \*Ground referenced input
- \*Low distortion



### PIN CONFIGURATIONS



### BLOCK DIAGRAM



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

PARAMETER	SYMBOL	VALUE	UNIT
Input Voltage	$V_i$	-0.4V~+0.4V	V
Operating Temperature	$T_{opr}$	0 to 70	$^{\circ}\text{C}$
Storage Temperature	$T_{stg}$	-40 to 150	$^{\circ}\text{C}$

## ELECTRICAL CHARACTERISTICS( $T_a=25^{\circ}\text{C}$ , all voltage referenced to GND unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent circuit current	ICCQ	$V_i=0$		4	8	mA
Output Power	$P_o$	$V_{cc}=6\text{V}, \text{THD}=10\%$	250	325		mW
		$V_{cc}=9\text{V}, \text{THD}=10\%$	500	700		mW
Voltage Gain	GV	Pin1 and pin 8 open		26		dB
		$10\mu\text{F}$ from pin 1 and pin 8		46		dB
Bandwidth	BW	Pin1 and pin 8 open		300		kHz
		$10\mu\text{F}$ from pin 1 and pin 8		60		kHz
Total harmonic distortion	THD	$P_o=125\text{mW}, \text{pin}1 \text{ and pin } 8 \text{ open}$		0.2		%
Input Resistance	$R_i$			50		$\text{k}\Omega$
Input Bias current	IBIAS	Pin1 and pin 8 open		250		nA

## APPLICATION CIRCUIT

