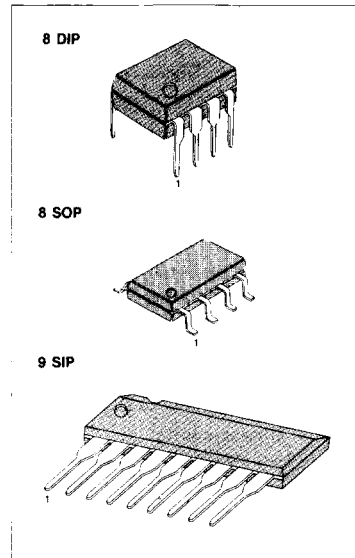


**AUDIO POWER AMPLIFIER**

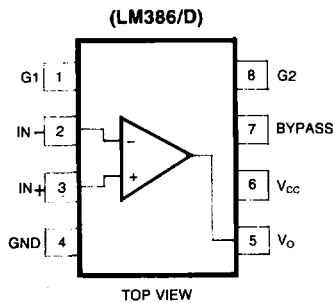
The LM386 is a monolithic integrated Audio Amplifier. It is designed for low voltage consumer applications.

**FEATURES**

- Wide supply voltage range: 4V ~ 12V (LM386N)  
4V ~ 9V (LM386S/D)
- Minimum external parts.
- Low quiescent current.
- Voltage gains 20 ~ 200.
- Low distortion.
- 3 kinds of package types:  
LM386N (8 DIP) LM386S (9 SIP), LM386D (8 SOP).

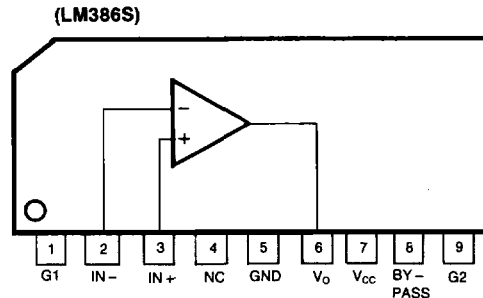


**BLOCK DIAGRAM**



**ORDERING INFORMATION**

Device	Package	Operating Temperature
LM386N	8 DIP	- 20 ~ + 70°C
LM386S	9 SIP	
LM386D	8 SOP	
LM386G	PELLET	



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

Characteristic	Symbol	Value	Unit
Supply Voltage	$V_{CC}$	15	V
Power Dissipation	LM386N	660	mW
	LM386S	500	
	LM386D	300	
Input Voltage	$V_i$	$\pm 0.4$	V
Operating Temperature	$T_{opr}$	$-20 \sim +70$	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	$-40 \sim +125$	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS**

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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Circuit Current	$I_{CC}$	$V_i = 0$		4	8	mA
Output Power	$P_o$	$V_{CC} = 6\text{V}$ , THD = 10%	250	320		mW
		$V_{CC} = 9\text{V}$ , THD = 10%	500	650		mW
Voltage Gain (D-Type)	$A_v$	Pins 1 and 8 Open		27		dB
		$10\mu\text{F}$ from Pin 1 to 8		45		
Bandwidth (D-Type)	BW	Pins 1 and 8 Open		300		KHz
		$10\mu\text{F}$ from Pin 1 to 8		60		
Total Harmonic Distortion (D-Type)	THD	$P_o = 125\text{mW}$ , Pins 1 and 8 Open		0.2		%
Input Resistance	$R_i$			50		$\text{K}\Omega$
Input Bias Current	$I_b$	Pins 1 and 8 Open		200		nA

**APPLICATION CIRCUIT**

