

# AN7112

## 0.5W Audio Power Amplifier

### ■ Description

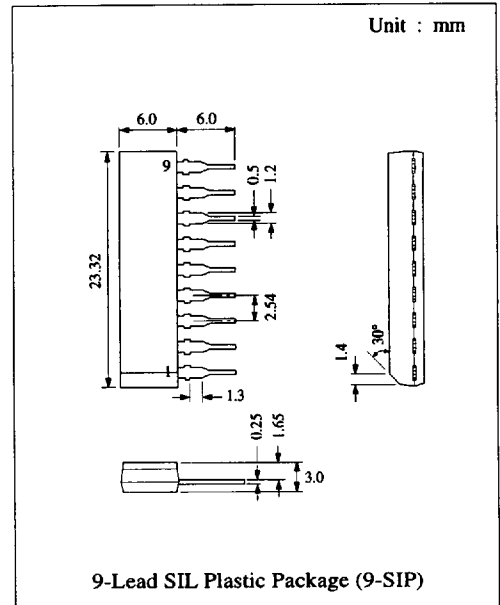
The AN7112 is a monolithic integrated circuit designed for 0.5W audio power amplifier.

### ■ Features

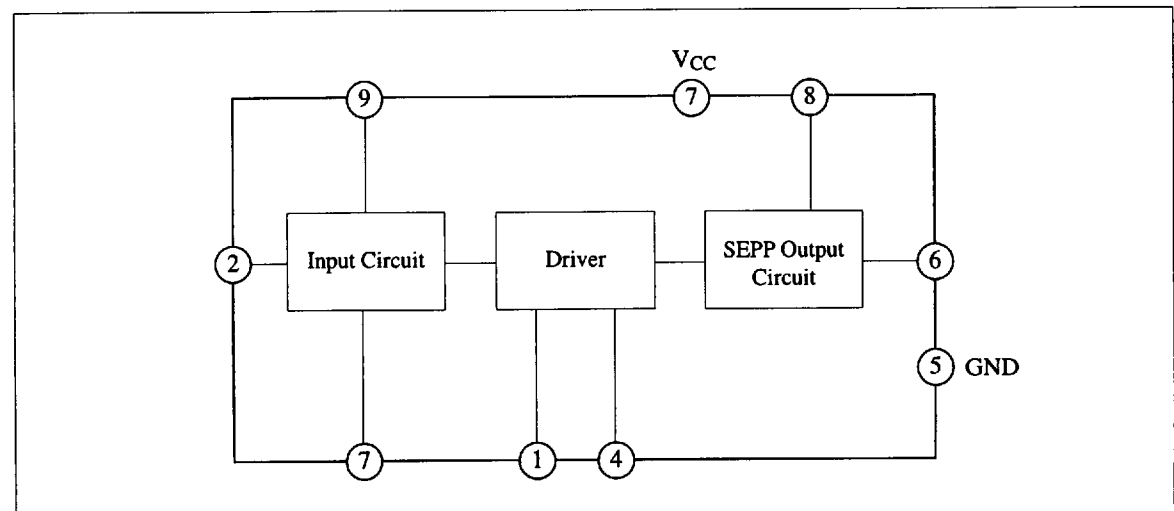
- Wide operating supply voltage range:  $V_{CC} = 4V \sim 14V$
- Low quiescent current:  $I_{CQ} = 15mA$   
(at  $V_{CC} = 6V, R_L = 8\Omega$ )

### ■ Pin

Pin No.	Pin Name
1	Phase Compensation
2	Input
3	N.F.B.
4	Phase Compensation
5	GND
6	Output
7	$V_{CC}$
8	Bootstrap
9	Ripple Filter



### ■ Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

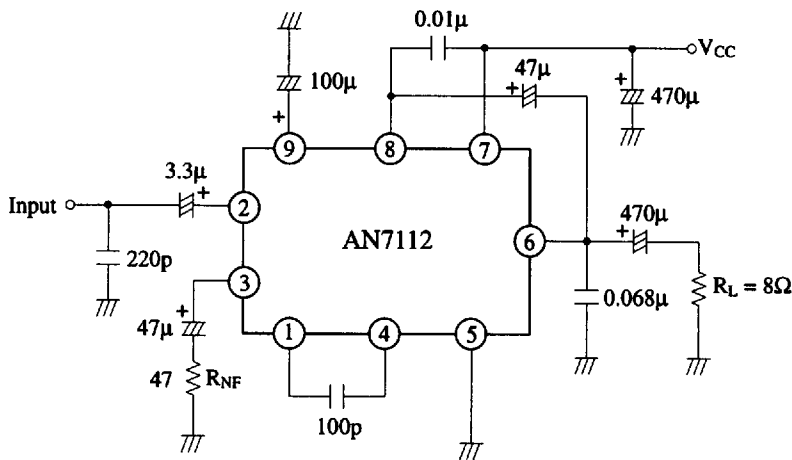
Item	Symbol	Rating	Unit
Supply Voltage	V <sub>CC</sub>	14	V
Supply Current	I <sub>CC(peak)</sub>	500	mA
Power Dissipation	P <sub>D</sub>	1	W
Operating Ambient Temperature	T <sub>opr</sub>	-25 ~ +75	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ +150	°C

Operating Supply Voltage Range: V<sub>CC</sub> = 4.0V ~ 14.0V

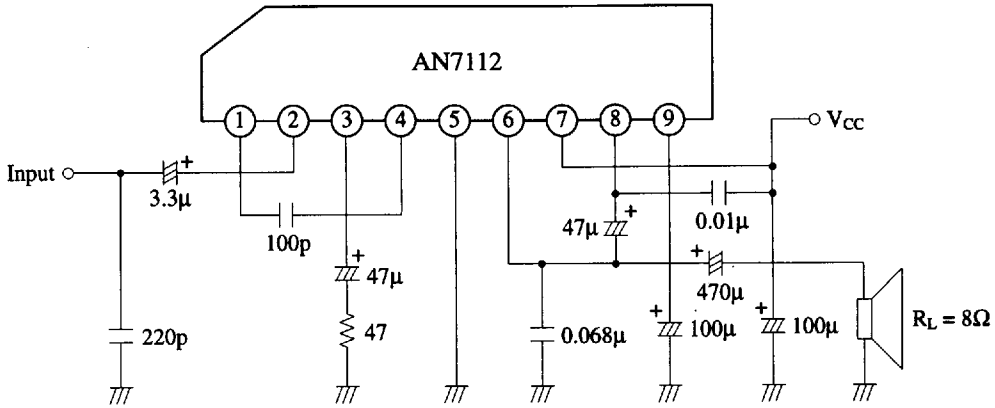
■ Electrical Characteristics (V<sub>CC</sub>=6V, R<sub>L</sub>=8Ω, f=1kHz, Ta=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Quiescent Current	I <sub>CQ</sub>	V <sub>CC</sub> = 4V, V <sub>in</sub> = 0mV	5			mA
		V <sub>CC</sub> = 6V, V <sub>in</sub> = 0mA		15	20	mA
		V <sub>CC</sub> = 9V, V <sub>in</sub> = 0mV		17	23	mA
Open Circuit Voltage Gain	G <sub>VO</sub>	P <sub>O</sub> = 100mW, R <sub>NF</sub> = 0Ω	65	71		dB
Closed Circuit Voltage Gain	G <sub>VC</sub>	P <sub>O</sub> = 100mW, R <sub>NF</sub> = 47Ω	47	50	52	dB
Maximum Output Power	P <sub>O</sub>	V <sub>CC</sub> = 6V, THD = 10%	0.45	0.5		W
		V <sub>CC</sub> = 9V, R <sub>L</sub> = 16Ω, THD = 10%		0.7		W
Total Harmonic Distortion	THD	P <sub>O</sub> = 100mW		0.3	1.0	%
Input Resistance	R <sub>in</sub>			15		kΩ
Output Noise Voltage	V <sub>no</sub>	BW = 50Hz ~ 20kHz, R <sub>g</sub> = 10kΩ		0.4	1.0	mV

Test Circuit



■ Application Circuit



■ Characteristics Curve

