

AN7112

0.5W Audio Power Amplifier

■ Description

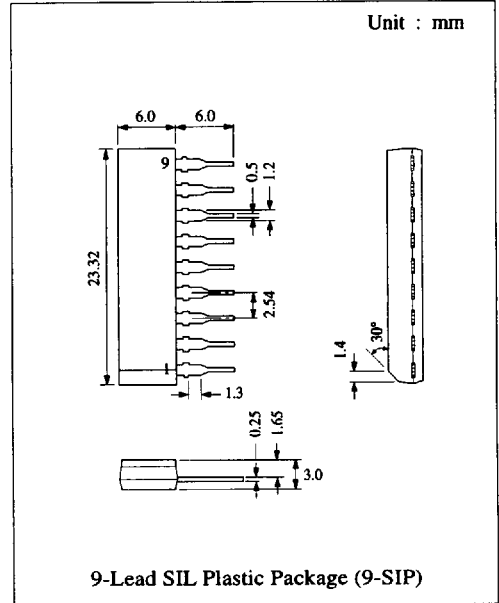
The AN7112 is a monolithic integrated circuit designed for 0.5W audio power amplifier.

■ Features

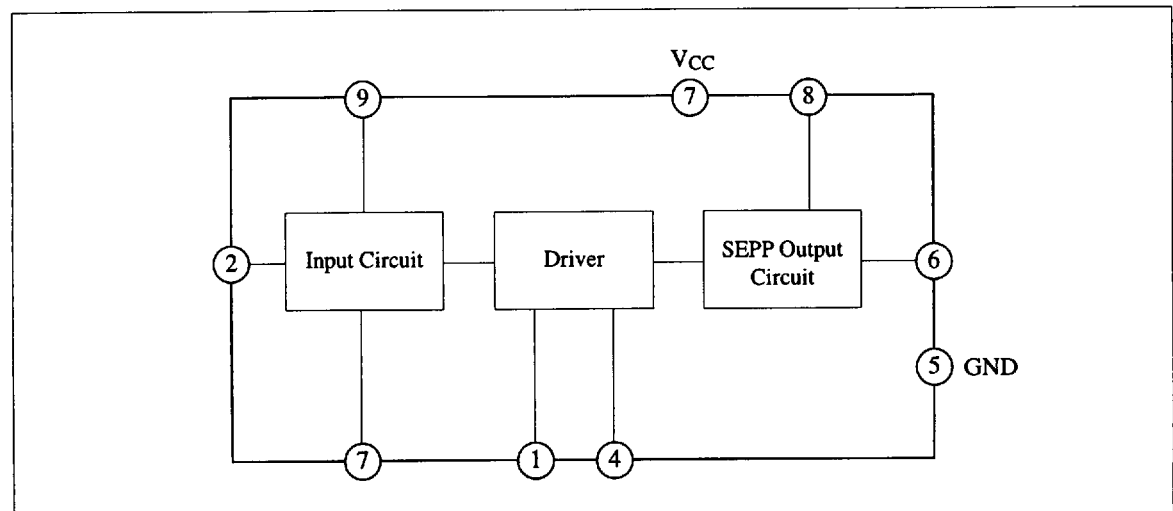
- Wide operating supply voltage range: $V_{CC} = 4V \sim 14V$
- Low quiescent current: $I_{CQ} = 15mA$
(at $V_{CC} = 6V, R_L = 8\Omega$)

■ 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)

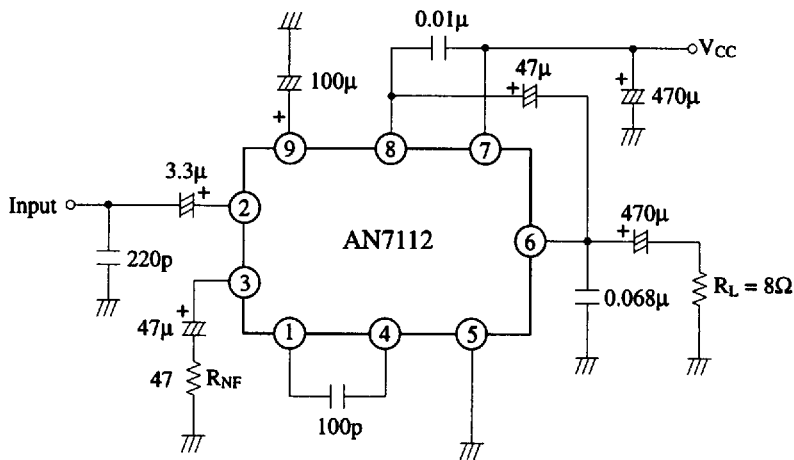
| Item | Symbol | Rating | Unit |
|-------------------------------|-----------------------|------------|------|
| Supply Voltage | V _{CC} | 14 | V |
| Supply Current | I _{CC(peak)} | 500 | mA |
| Power Dissipation | P _D | 1 | W |
| Operating Ambient Temperature | T _{opr} | -25 ~ +75 | °C |
| Storage Temperature | T _{stg} | -55 ~ +150 | °C |

Operating Supply Voltage Range: V_{CC} = 4.0V ~ 14.0V

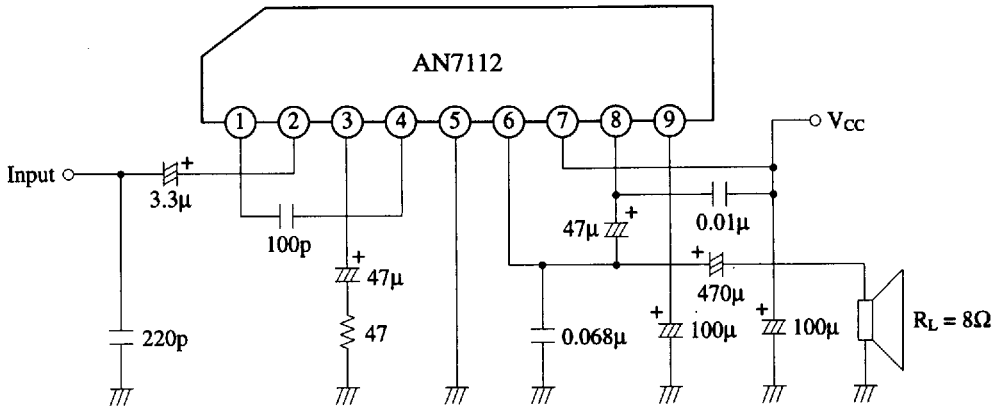
■ Electrical Characteristics (V_{CC}=6V, R_L=8Ω, f=1kHz, Ta=25°C)

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

Test Circuit



■ Application Circuit



■ Characteristics Curve

