

AN7117

Low Power Consumption 1W Audio Power Amplifier

■ Description

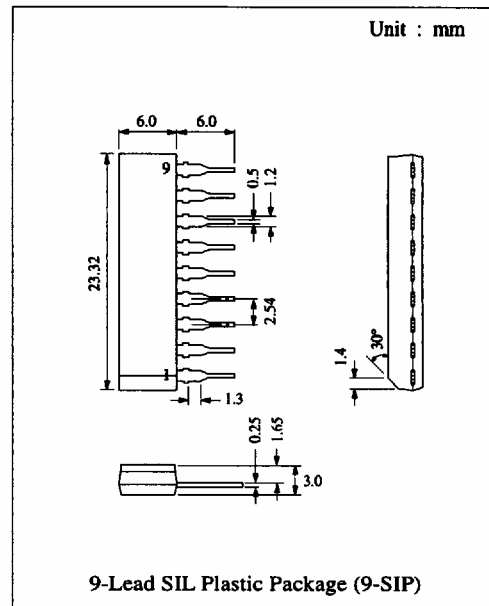
The AN7117 is a monolithic integrated circuit designed for low power consumption 1W audio power amplifier.

■ Features

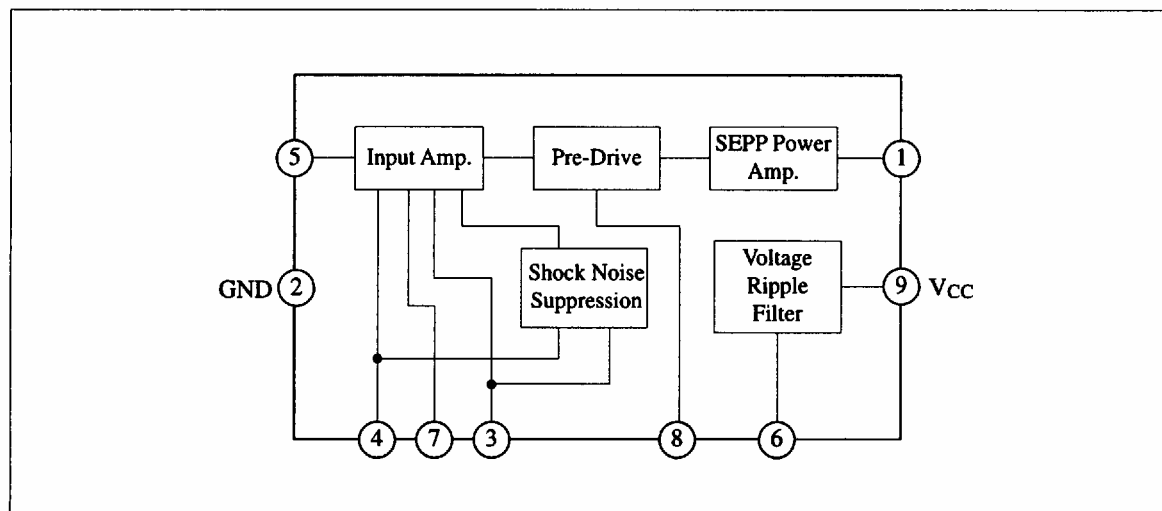
- Low quiescent current: $I_{CQ} = 8\text{mA typ.}$ (at $V_{CC} = 6\text{V}$, $R_L = 4\Omega$)
- Low voltage operation: $V_{CC} = 2.0\text{V} \sim 9.0\text{V}$

■ Pin

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



■ Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

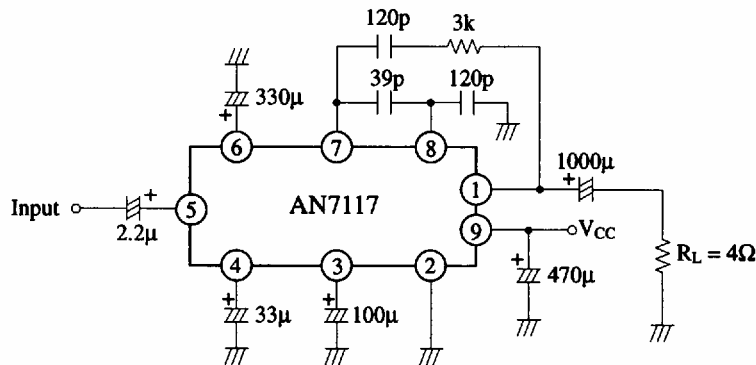
| Item | Symbol | Rating | Unit |
|-------------------------------|-----------------------|------------|------|
| Supply Voltage | V _{CC} | 9 | V |
| Supply Current | I _{CC(peak)} | 2 | A |
| Power Dissipation | P _D | 1 | W |
| Operating Ambient Temperature | T _{opr} | -20 ~ +75 | °C |
| Storage Temperature | T _{stg} | -50 ~ +150 | °C |

Operating Supply Voltage Range: V_{CC} = 2.0V ~ 9.0V

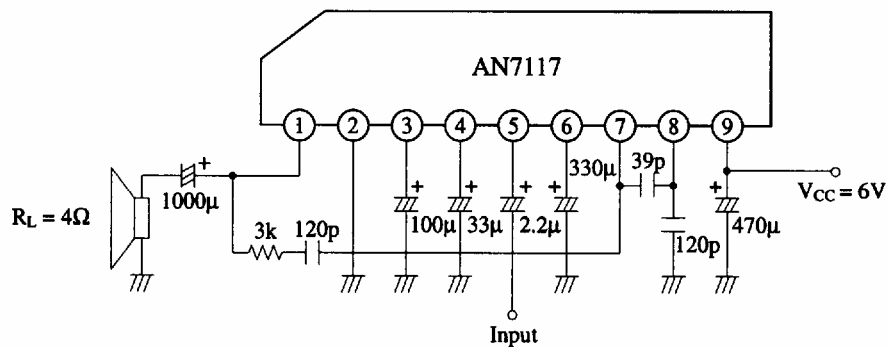
■ Electrical Characteristics (V_{CC}=6V, R_L=4Ω, f=1kHz, Ta=25°C)

| Item | Symbol | Condition | min. | typ. | max. | Unit |
|---------------------------|-----------------|--------------------------------|------|------|------|------|
| Quiescent Current | I _{CQ} | V _{in} = 0mV | | 8 | 16 | mA |
| Voltage Gain | G _v | V _{in} = 3mV | 37.5 | 39.5 | 41.5 | dB |
| Output Power | P _O | THD = 10% | 550 | 650 | | mW |
| Output Power | P _O | R _L = 8Ω, THD = 10% | | 440 | | mW |
| Total Harmonic Distortion | THD | V _{in} = 2mV | | 0.6 | 1.5 | % |
| Output Noise Voltage | V _{no} | R _g = 10kΩ | | 0.2 | 1.0 | mV |
| Input Resistance | R _{in} | | | 30 | | kΩ |
| Ripple Rejection | RR | V _{CC} = 6V ± 400mV | 35 | 45 | | dB |

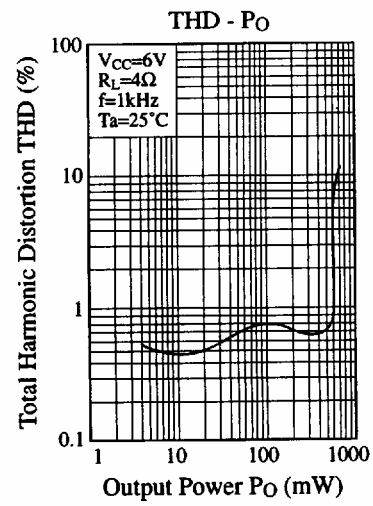
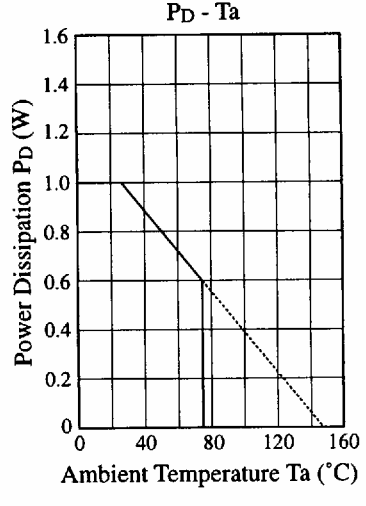
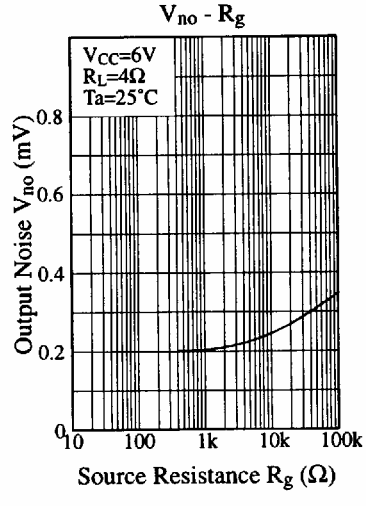
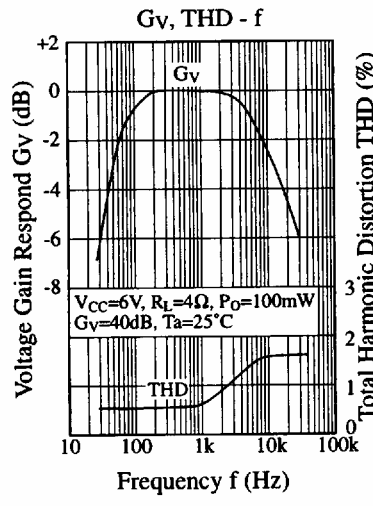
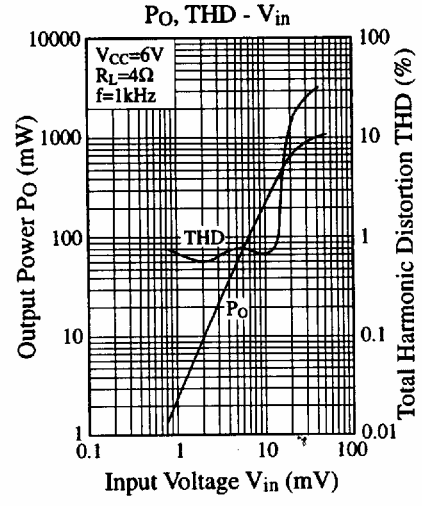
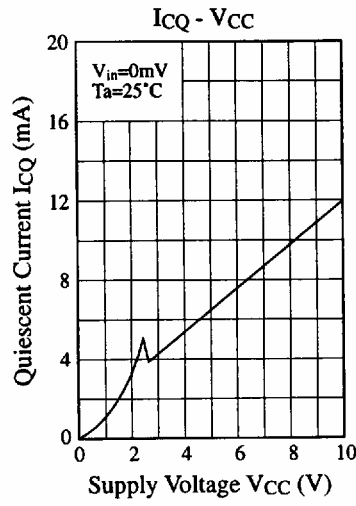
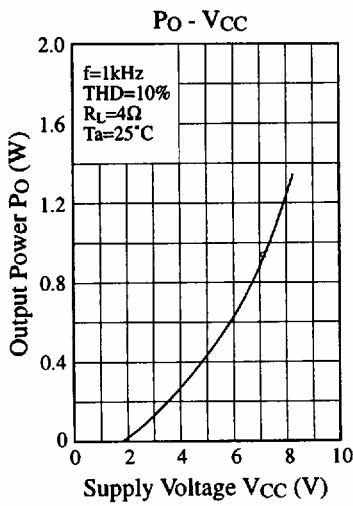
Test Circuit



■ Application Circuit



■ Characteristics Curve



■ Printed Circuit Board Layout (Scale: 1:1)

