

# AN7116

## 1W Audio Power Amplifier Circuit

### ■ Description

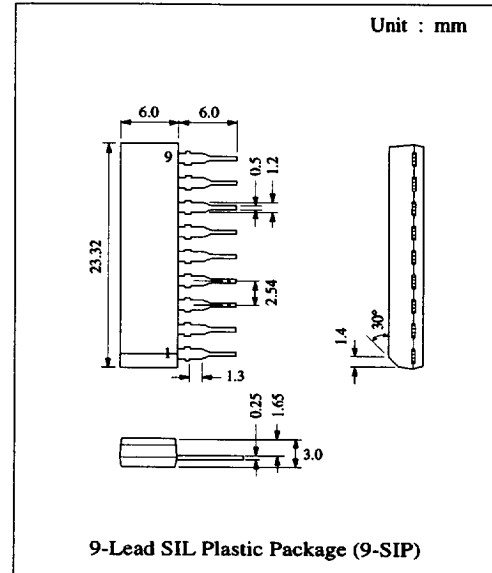
The AN7116 is a monolithic integrated circuit designed for 1W audio power amplifier.

### ■ Features

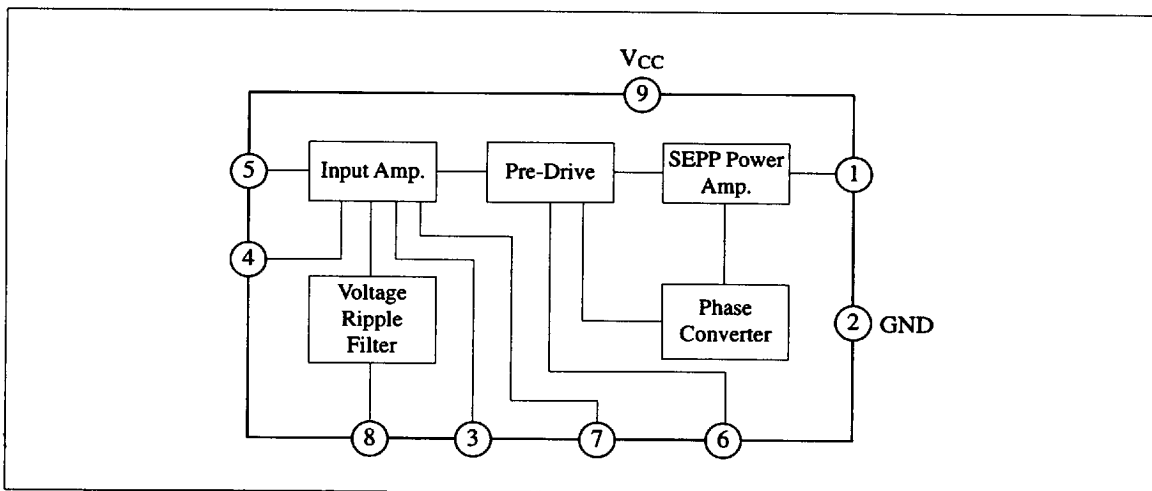
- Low quiescent current:  $I_{CQ} = 13\text{mA typ.}$   
(at  $V_{CC} = 6\text{V}$ ,  $R_L = 4\Omega$ )
- Low voltage operation:  $V_{CC} = 3 \sim 9\text{V}$ .

### ■ Pin

| Pin No. | Pin Name           |
|---------|--------------------|
| 1       | Output             |
| 2       | GND                |
| 3       | Negative Feedback  |
| 4       | Ripple Filter      |
| 5       | Input              |
| 6       | Phase Compensation |
| 7       | Phase Compensation |
| 8       | Ripple Filter      |
| 9       | Vcc                |



### ■ Block Diagram



### ■ Absolute Maximum Ratings (Ta=25°C)

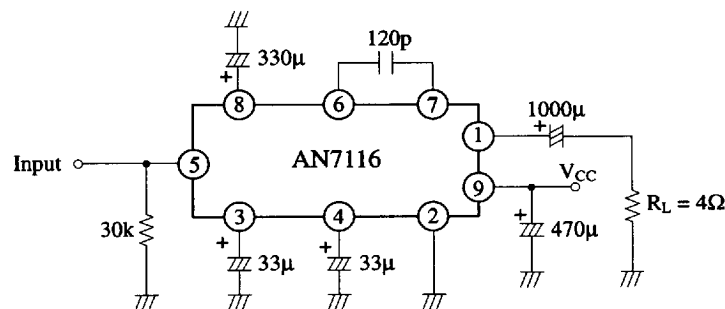
| Item                          | Symbol           | Rating     | Unit |
|-------------------------------|------------------|------------|------|
| Supply Voltage                | V <sub>CC</sub>  | 9          | V    |
| Supply Current                | I <sub>CC</sub>  | 2          | A    |
| Power Dissipation             | P <sub>D</sub>   | 1          | W    |
| Operating Ambient Temperature | T <sub>opr</sub> | -20 ~ +75  | °C   |
| Storage Temperature           | T <sub>stg</sub> | -55 ~ +150 | °C   |

Operating Supply Voltage Range: V<sub>CC</sub> = 3.0V ~ 9.0V

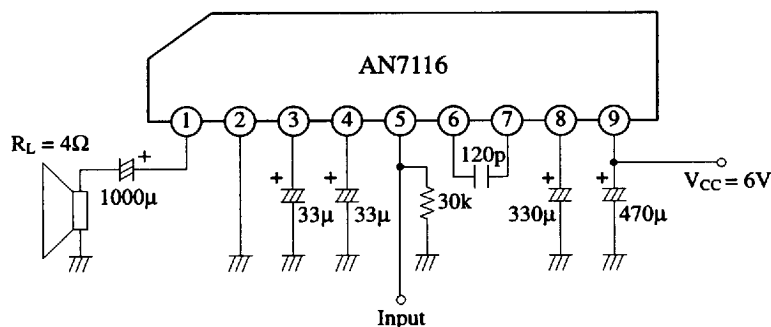
### ■ Electrical Characteristics (V<sub>CC</sub>=6V, R<sub>L</sub>=4Ω, f=1kHz, Ta=25±2°C)

| Item                      | Symbol          | Condition                      | min. | typ. | max. | Unit |
|---------------------------|-----------------|--------------------------------|------|------|------|------|
| Quiescent Current         | I <sub>CQ</sub> | V <sub>in</sub> = 0mV          |      | 13   | 23   | mA   |
| Voltage Gain              | G <sub>V</sub>  | V <sub>in</sub> = 3mV          | 48   | 50   | 52   | dB   |
| Output Power              | P <sub>O</sub>  | THD = 10%                      | 700  | 770  |      | mW   |
| Output Power              | P <sub>O</sub>  | R <sub>L</sub> = 8Ω, THD = 10% |      | 450  |      | mW   |
| Total Harmonic Distortion | THD             | V <sub>in</sub> = 2mV          |      | 0.6  | 1.5  | %    |
| Output Noise              | V <sub>no</sub> | R <sub>g</sub> = 10kΩ          |      | 0.7  | 2    | mV   |
| Input Resistance          | R <sub>in</sub> |                                |      | 30   |      | kΩ   |
| Ripple Rejection          | RR              |                                |      | 40   |      | dB   |

### Test Circuit



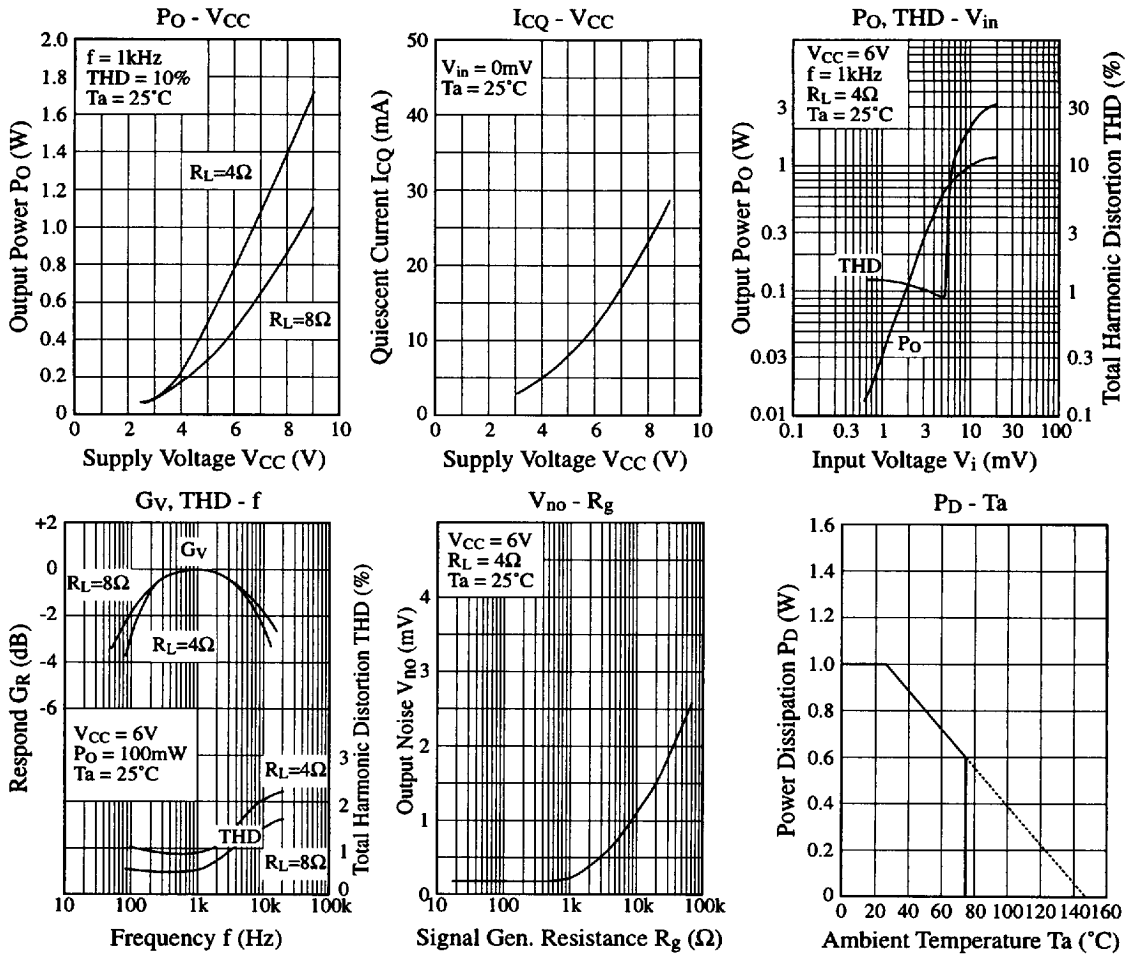
### ■ Application Circuit



■ 6932852 0013760 347 ■

Panasonic

■ Characteristics Curve



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

