

# AN7116

## 1W Audio Power Amplifier Circuit

### ■ Description

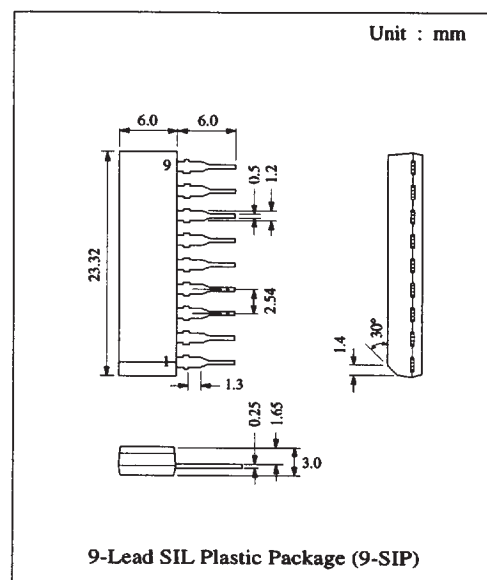
The AN7116 is a monolithic integrated circuit designed for 1W audio power amplifier.

### ■ Features

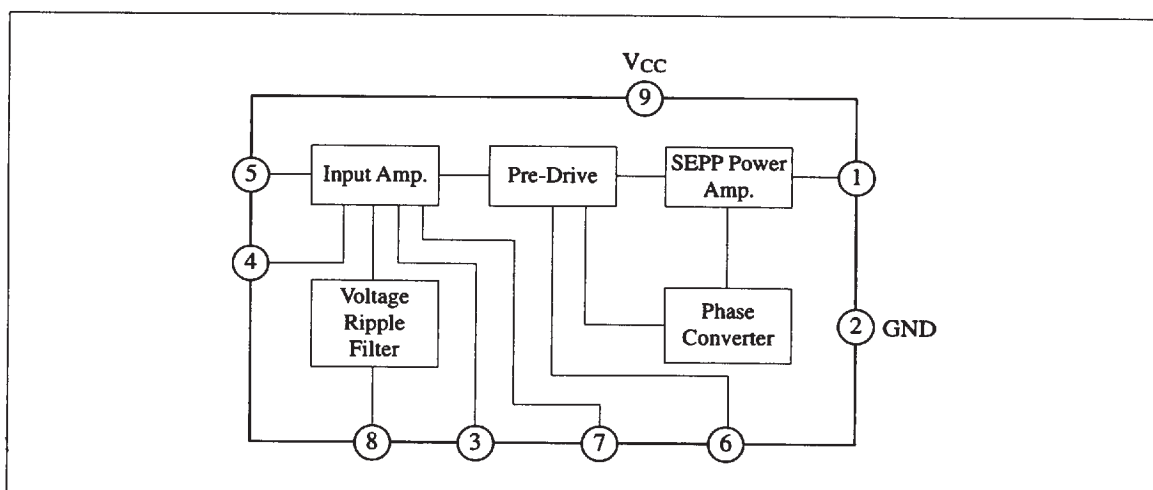
- Low quiescent current:  $I_{CQ} = 13\text{mA typ.}$   
(at  $V_{CC} = 6\text{V}$ ,  $R_L = 4\Omega$ )
- Low voltage operation:  $V_{CC} = 3 \sim 9\text{V}$ .

### ■ 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	$V_{CC}$



### ■ Block Diagram



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

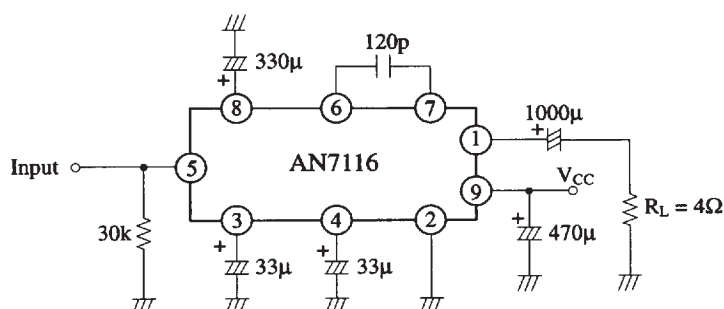
Item	Symbol	Rating	Unit
Supply Voltage	V <sub>CC</sub>	9	V
Supply Current	I <sub>CC</sub>	2	A
Power Dissipation	P <sub>D</sub>	1	W
Operating Ambient Temperature	T <sub>opr</sub>	-20 ~ +75	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ +150	°C

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

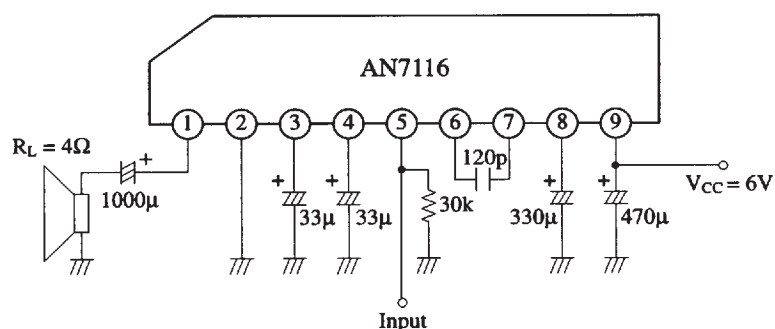
### ■ Electrical Characteristics (V<sub>CC</sub>=6V, R<sub>L</sub>=4Ω, f=1kHz, Ta=25±2°C)

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

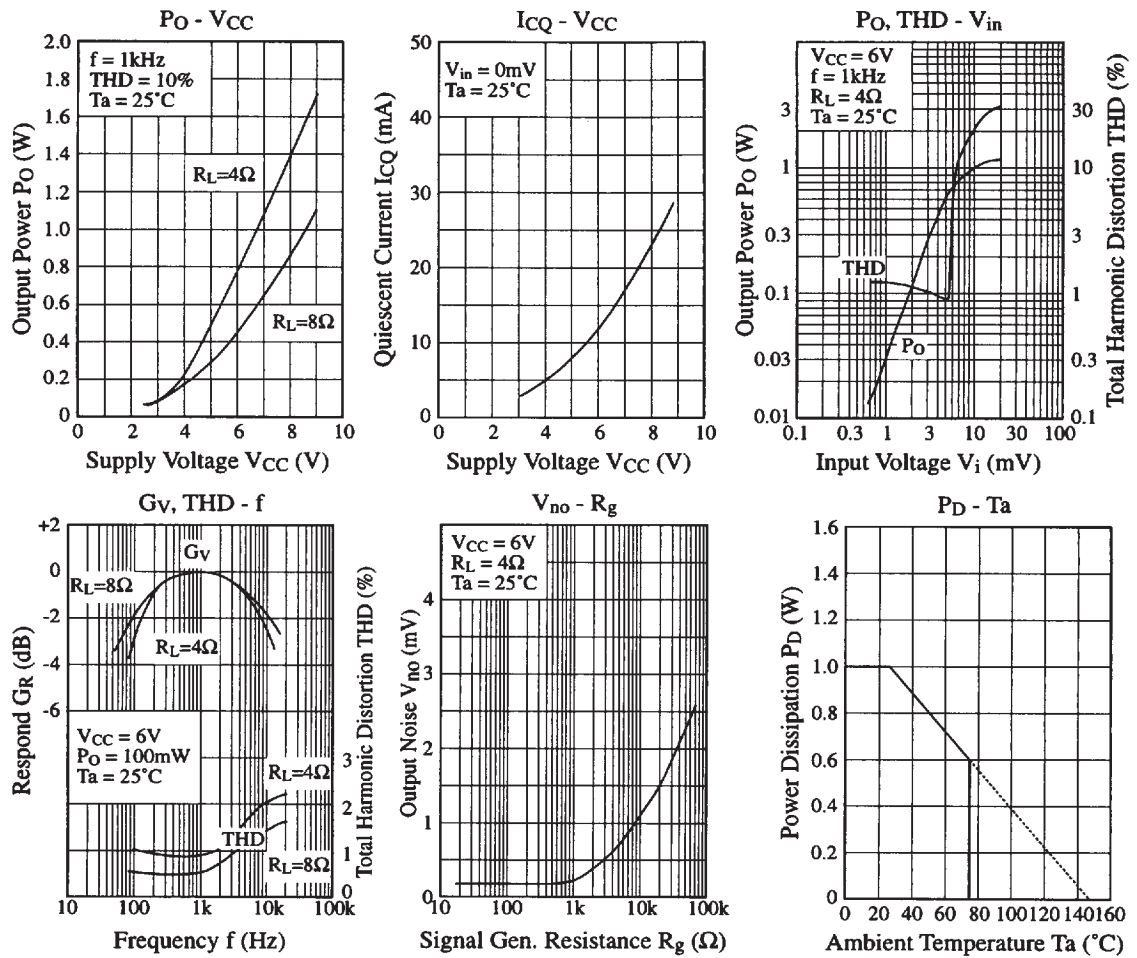
### Test Circuit



### ■ Application Circuit



### ■ Characteristics Curve



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

