

AN7116

1W Audio Power Amplifier Circuit

Description

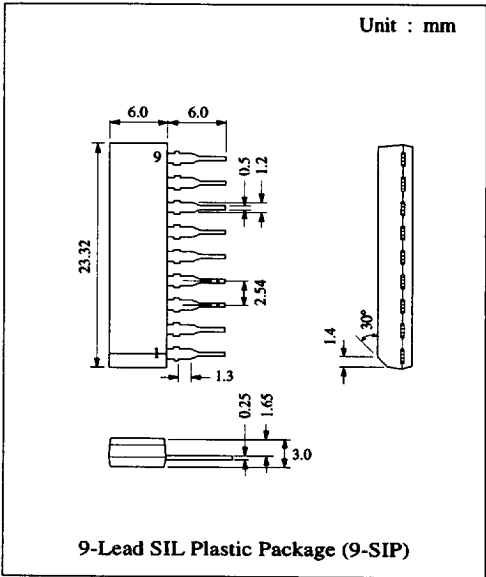
The AN7116 is a monolithic integrated circuit designed for 1W audio power amplifier.

Features

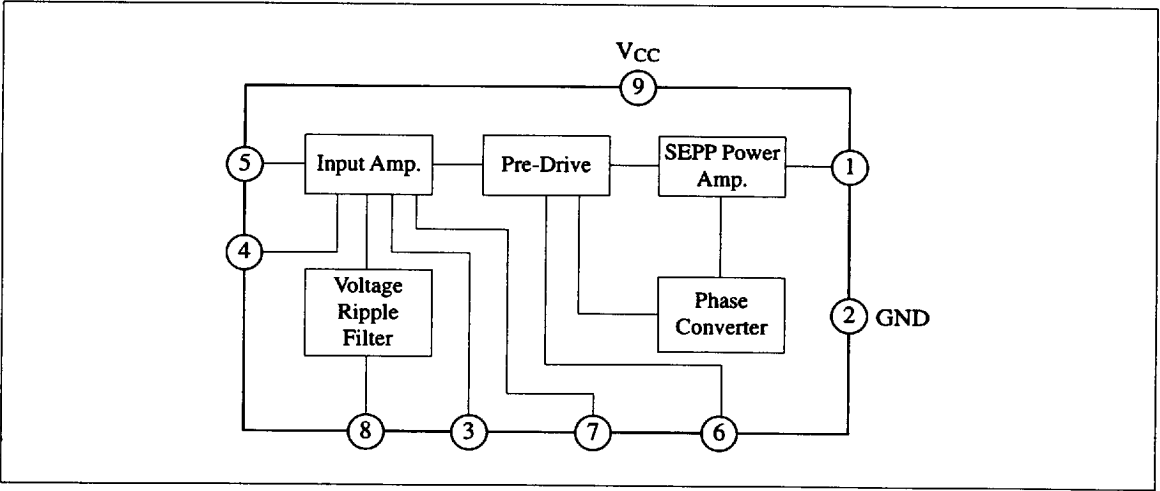
- Low quiescent current: $I_{CQ} = 13\text{mA typ.}$
(at $V_{CC} = 6\text{V}$, $R_L = 4\Omega$)
- Low voltage operation: $V_{CC} = 3 \sim 9\text{V}$.

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)

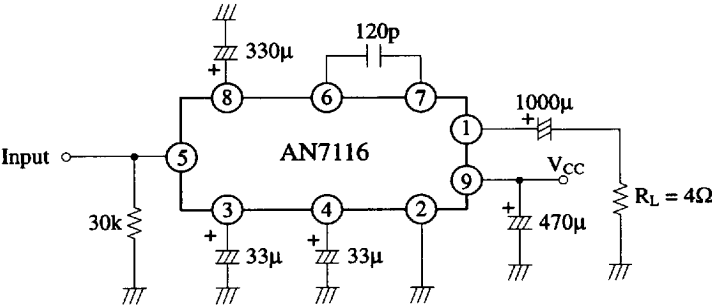
Item	Symbol	Rating	Unit
Supply Voltage	V _{CC}	9	V
Supply Current	I _{CC}	2	A
Power Dissipation	P _D	1	W
Operating Ambient Temperature	T _{opr}	-20 ~ +75	°C
Storage Temperature	T _{stg}	-55 ~ +150	°C

Operating Supply Voltage Range: V_{CC} = 3.0V ~ 9.0V

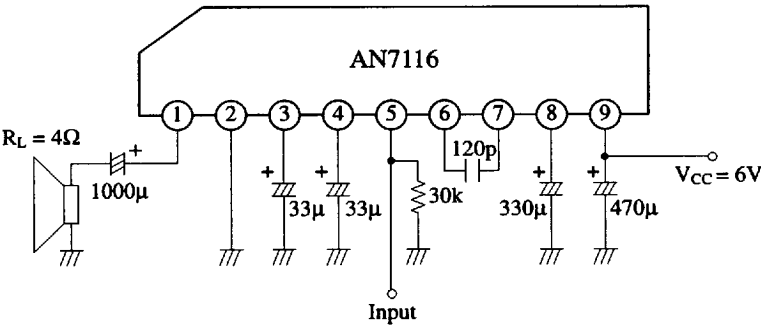
■ Electrical Characteristics (V_{CC}=6V, R_L=4Ω, f=1kHz, Ta=25±2°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Quiescent Current	I _{CQ}	V _{in} = 0mV		13	23	mA
Voltage Gain	G _v	V _{in} = 3mV	48	50	52	dB
Output Power	P _O	THD = 10%	700	770		mW
Output Power	P _O	R _L = 8Ω, THD = 10%		450		mW
Total Harmonic Distortion	THD	V _{in} = 2mV		0.6	1.5	%
Output Noise	V _{no}	R _g = 10kΩ		0.7	2	mV
Input Resistance	R _{in}			30		kΩ
Ripple Rejection	RR			40		dB

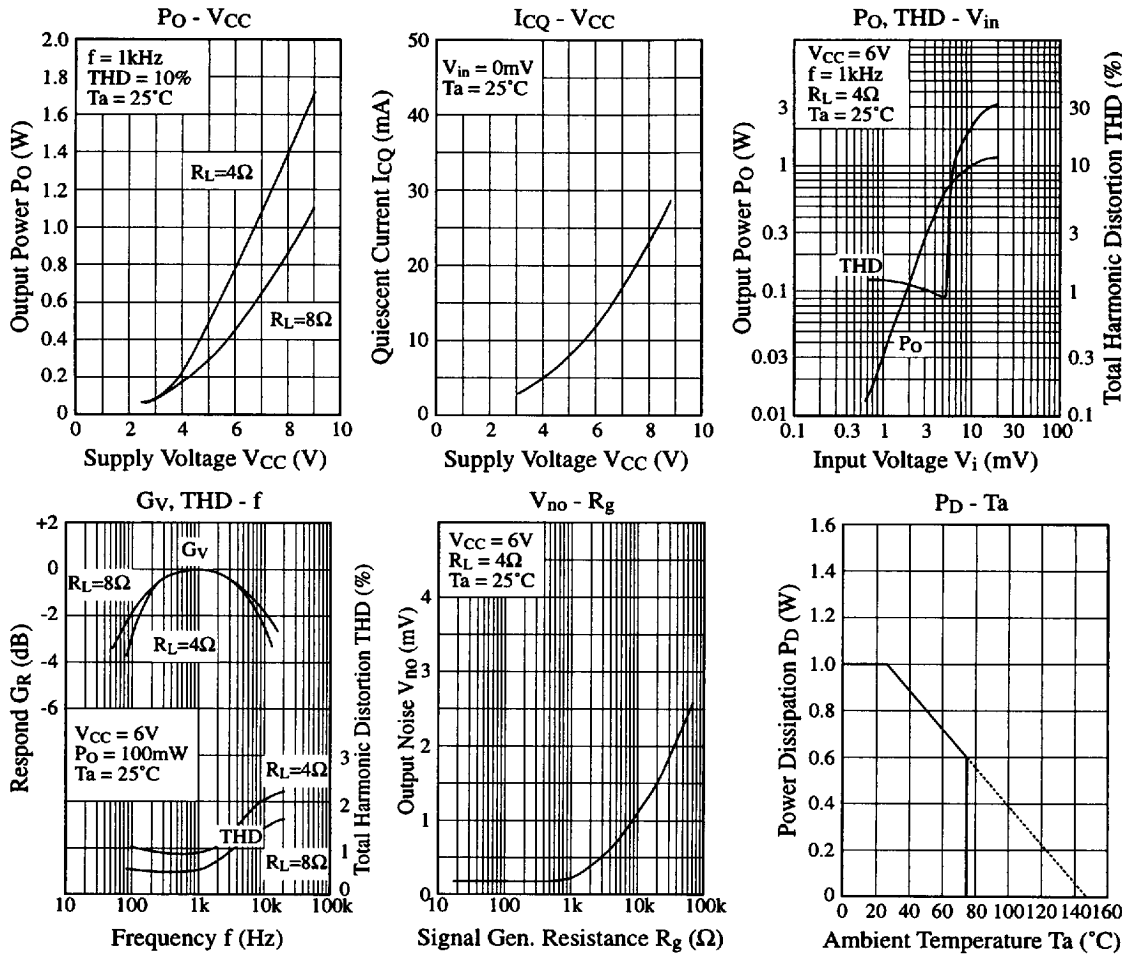
Test Circuit



■ Application Circuit



■ Characteristics Curve



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

