

9V / 2.3W single-channel power amplifier

BA534

The BA534 is a monolithic power amplifier designed for portable cassette players and radios. With a 9V power supply, it has a rated output of 2.3W into a 4Ω load (THD = 10%). It has high ripple rejection ratio, and the “pop” noise when power is applied has been suppressed to an absolute minimum.

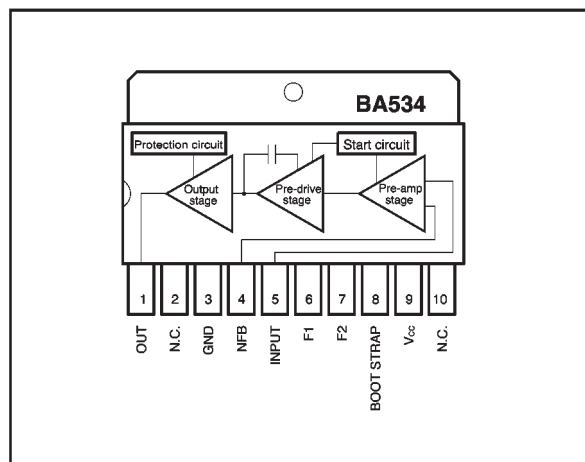
● Applications

Portable cassette recorders and radios.

● Features

- 1) High power output.
When $V_{CC} = 9V$, $R_L = 4\Omega$ and THD = 10%: $P_{OUT} = 2.3W$
When $V_{CC} = 9V$, $R_L = 3\Omega$ and THD = 10%: $P_{OUT} = 2.8W$
- 2) The “pop” noise that occurs when the power is applied is extremely low.
- 3) Excellent ripple rejection ratio.

● Block diagram

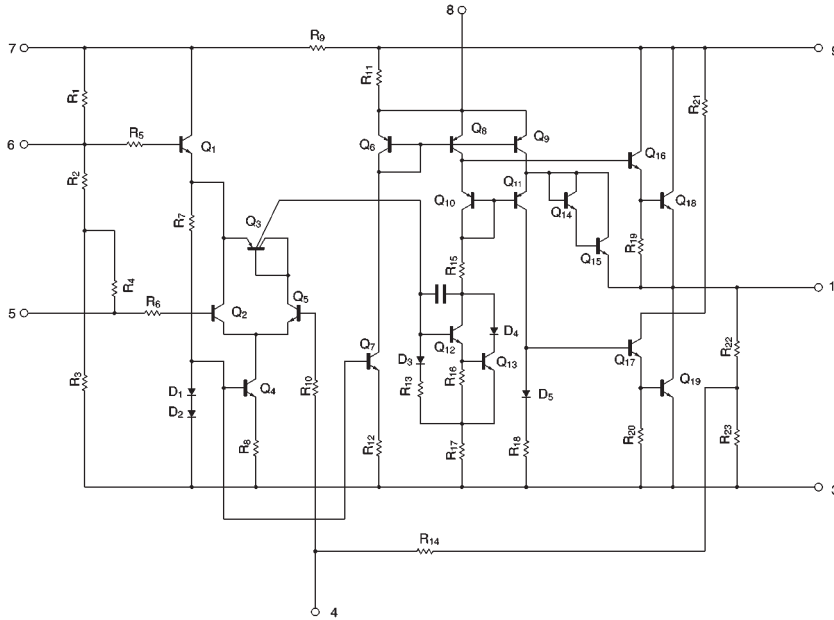


● Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit
Power supply voltage	V_{CC}	14	V
Power dissipation	P_d	2.5*	W
Operating temperature	T_{opr}	$-25 \sim +75$	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55 \sim +125$	$^\circ\text{C}$

* Reduced by 25mW for each increase in T_a of 1°C over 25°C .
(without radiation board)

● Internal circuit configuration



● Electrical characteristics (unless otherwise noted, $T_a = 25^\circ\text{C}$, $V_{CC} = 9\text{V}$, $R_L = 4\Omega$ and $R_{NF} = 100\Omega$)

Parameter	Symbol	Min	Typ.	Max.	Unit	Conditions	Measurement circuit
Quiescent current	I_Q	—	20	50	mA	—	Fig.1
Closed loop voltage gain	G_{VC}	47	50	53	dB	$f=1\text{kHz}$	Fig.1
Rated output	P_{OUT}	1.7	2.3	—	W	THD=10%	Fig.1
Output noise voltage	V_{NO}	—	0.7	3.0	mV_{rms}	$R_g=10\text{k}\Omega$	Fig.1
Input resistance	R_{IN}	—	200	—	$\text{k}\Omega$	—	Fig.1
Total harmonic distortion	THD	—	0.3	2	%	$P_O=0.5\text{W}$	Fig.1

● Measurement circuit

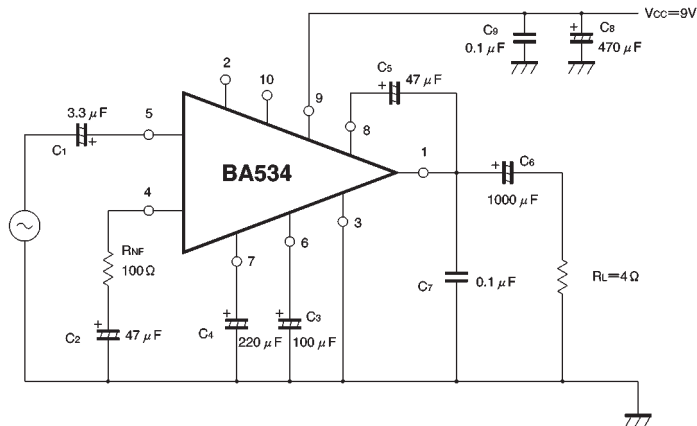


Fig. 1

● Application example

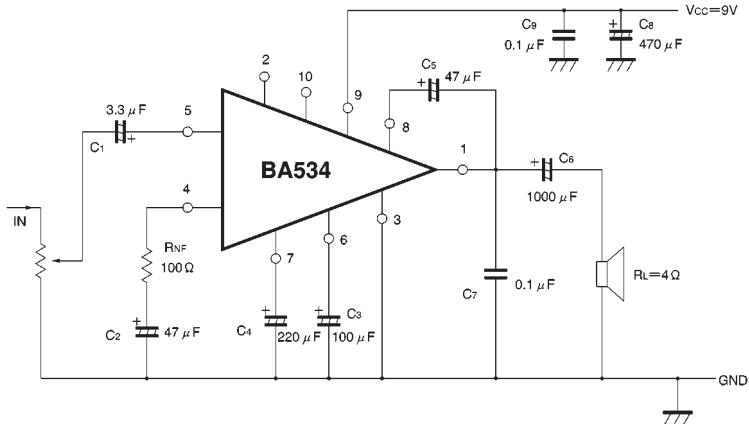


Fig. 2

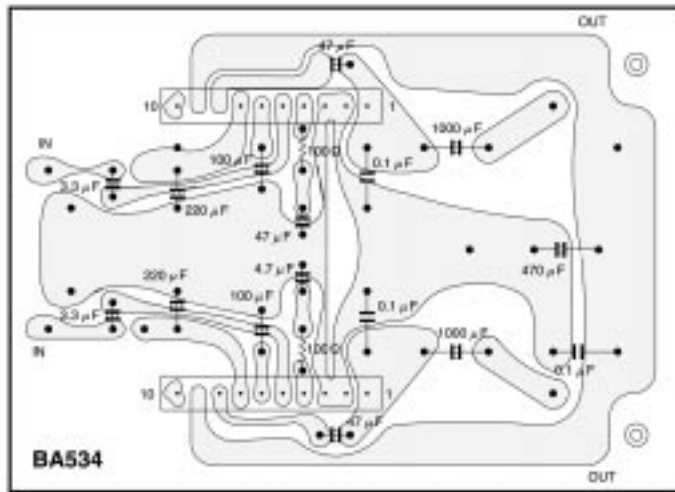


Fig. 3 PCB diagram

● External dimensions (Units: mm)

