

# 6V / 800mW single-channel power amplifier

## BA527

The BA527 is a monolithic power amplifier designed for portable cassette players and radio cassette players. With a 6V power supply, it has a rated output of 800mW into a 4Ω load (THD = 10%). It is a high-grade design that generates almost no audible switching noise, and is ideal for high-end compact cassette players (including those with radio).

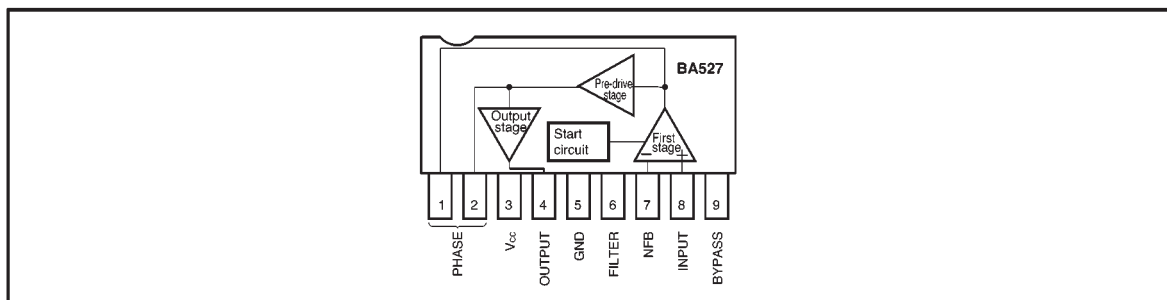
### ●Applications

Portable cassette recorders and radio cassette recorders

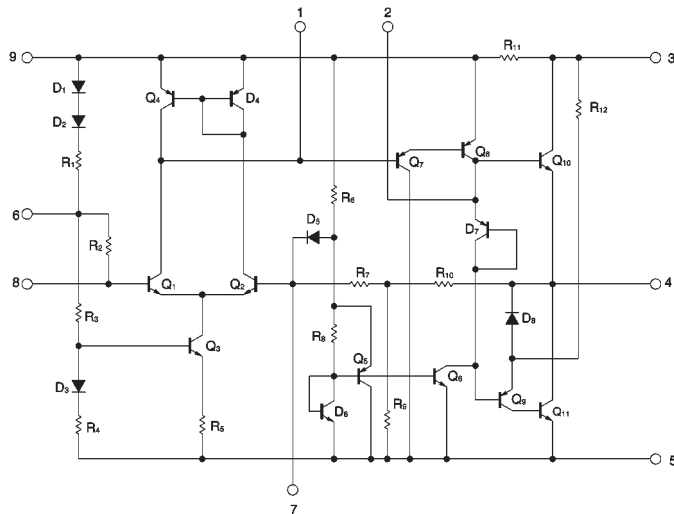
### ●Features

- 1) Rated power output is 800mW ( $V_{CC} = 6V$  and a 4Ω load (THD = 10%). Maximum output is 1300mW.
- 2) Pin compatible with the Rohm BA526 power amplifier, and can be interchanged to suit the application.
- 3) Compact 9-pin SIP package that does not require a heatsink. Allows more compact set designs, and is easy to mount.
- 4) High ripple rejection ratio (55dB) and generates almost no "pop" noise.
- 5) Excellent low voltage characteristics (starts operating at  $SV < 2.8V$ ).

### ●Block diagram



● Internal circuit configuration



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● Absolute maximum ratings (Ta = 25°C)

| Parameter             | Symbol           | Limits   | Unit |
|-----------------------|------------------|----------|------|
| Power supply voltage  | V <sub>CC</sub>  | 9        | V    |
| Power dissipation     | P <sub>d</sub>   | 950*     | mW   |
| Operating temperature | T <sub>opr</sub> | -10~+65  | °C   |
| Storage temperature   | T <sub>stg</sub> | -30~+125 | °C   |

\* Reduced by 9.5mW for each increase in Ta of 1°C over 25°C.

● Electrical characteristics (unless otherwise noted, Ta = 25°C, V<sub>CC</sub> = 6V, R<sub>L</sub> = 4Ω, f = 1kHz and R<sub>NF</sub> = 220Ω)

| Parameter                 | Symbol           | Min | Typ. | Max. | Unit              | Conditions                           | Measurement circuit |
|---------------------------|------------------|-----|------|------|-------------------|--------------------------------------|---------------------|
| Quiescent current         | I <sub>Q</sub>   | —   | 16   | 25   | mA                | V <sub>IN</sub> =0V <sub>rms</sub>   | Fig.1               |
| Closed loop voltage gain  | G <sub>VC</sub>  | 43  | 46   | 49   | dB                | V <sub>O</sub> =0.45V <sub>rms</sub> | Fig.1               |
| Maximum output power      | P <sub>OM</sub>  | 900 | 1300 | —    | mW                | —                                    | Fig.1               |
| Rated output power        | P <sub>OUT</sub> | 700 | 800  | —    | mW                | THD=10%                              | Fig.1               |
| Output noise voltage      | V <sub>NO</sub>  | —   | 0.2  | 0.7  | mV <sub>rms</sub> | R <sub>g</sub> =0Ω                   | Fig.1               |
| Total harmonic distortion | THD              | —   | 0.45 | 1.8  | %                 | P <sub>O</sub> =50mW, 1kHz           | Fig.1               |
| Input resistance          | R <sub>IN</sub>  | —   | 47   | —    | kΩ                | P <sub>O</sub> =50mW                 | Fig.1               |

● Measurement circuit

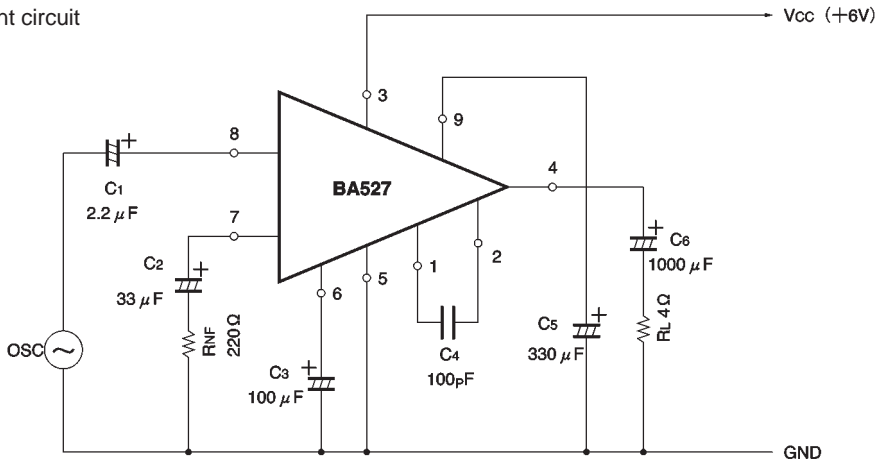


Fig. 1

● Application example

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From preamplifier

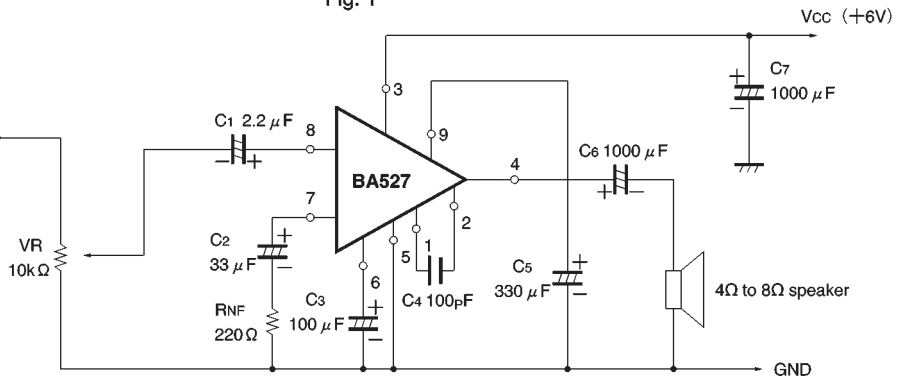


Fig. 2

● External dimensions (Units: mm)

