

AN7141

1W Audio Power Amplifier Circuit

■ Description

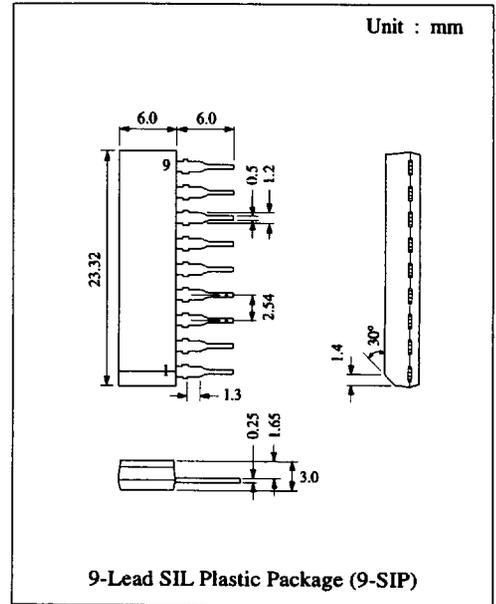
The AN7141 is a monolithic integrated circuit designed for 1W audio power amplifier suitable for radio cassette recorders.

■ Features

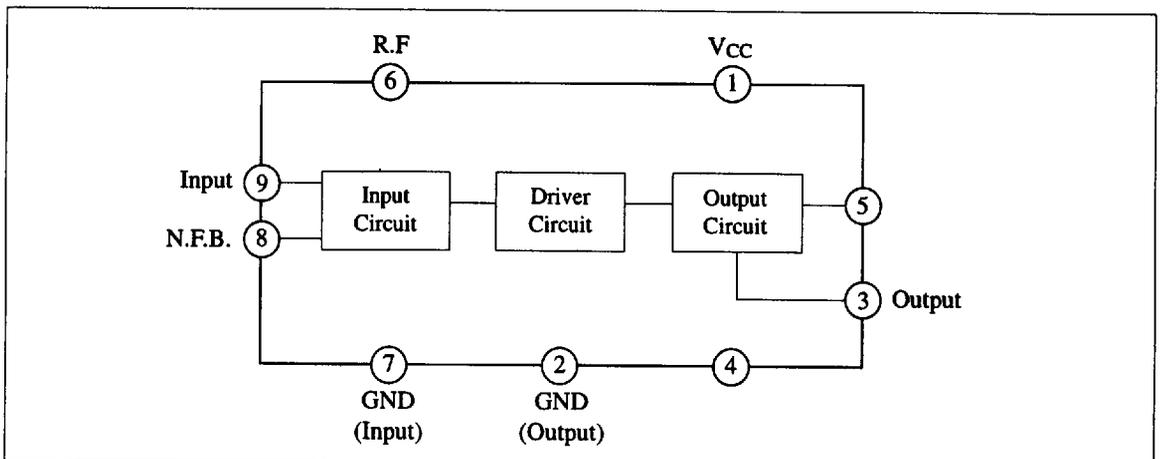
- Low quiescent current
- High operation stability
- Low radiation
- Low noise
- Fewer external components

■ Pin

| Pin No. | Pin Name |
|---------|----------------------------------|
| 1 | V _{CC} |
| 2 | GND (Output) |
| 3 | Output |
| 4 | Suppression Crossover Distortion |
| 5 | Bootstrap |
| 6 | Ripple Filter |
| 7 | GND (Input) |
| 8 | N.F.B. |
| 9 | Input |



■ Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

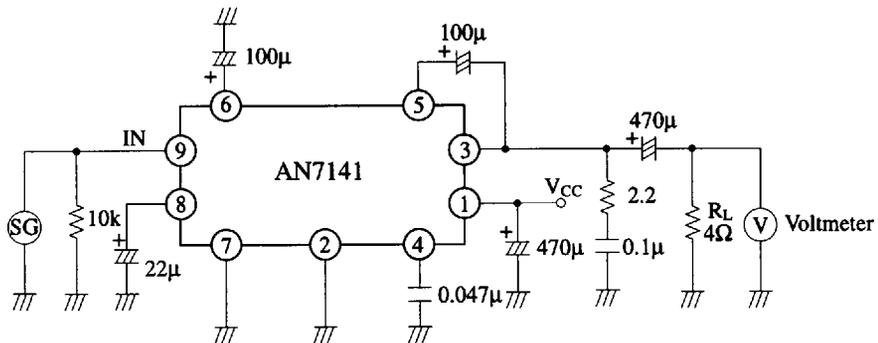
| Item | Symbol | Rating | Unit |
|-------------------------------|------------------|------------|------|
| Supply Voltage | V _{CC} | 15 | V |
| Supply Current | I _{CC} | 2 | A |
| Power Dissipation | P _D | 1.25 | W |
| Operating Ambient Temperature | T _{opr} | -30 ~ +75 | °C |
| Storage Temperature | T _{stg} | -55 ~ +150 | °C |

Operating Supply Voltage Range: V_{CC} = 3.9V ~ 15.0V

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

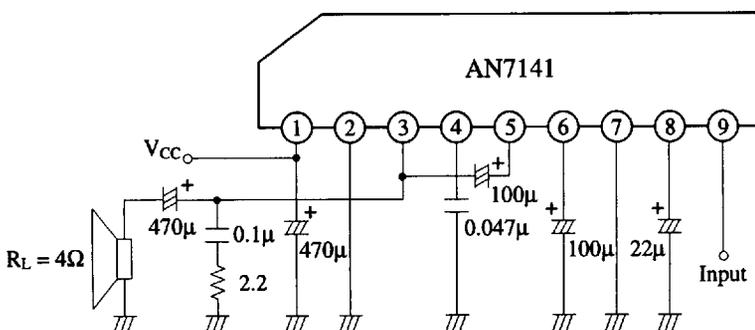
| Item | Symbol | Condition | min. | typ. | max. | Unit |
|---------------------------|---------------------|---|------|------|------|------|
| Quiescent Current | I _{CQ} | V _{in} = 0mV | 5 | 8.5 | 12 | mA |
| Output Noise Voltage | V _{no} | V _{in} = 0mA, R _g = 10kΩ, With filter 15~30kHz (12dB/Oct) | | 0.3 | 0.5 | mV |
| Voltage Gain | G _V | V _O = 0.5V | 41.5 | 43.5 | 45.5 | dB |
| Total Harmonic Distortion | THD | V _O = 0.5V | | 0.7 | 1.1 | % |
| Maximum Output Power | P _{O(max)} | THD = 10% | 0.7 | 0.9 | 1.1 | W |

Test Circuit

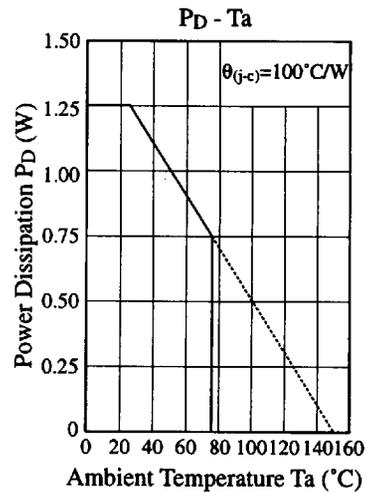
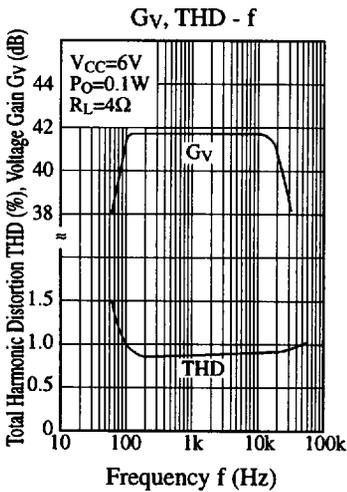
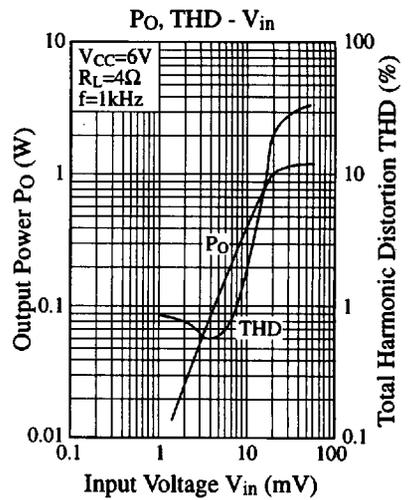
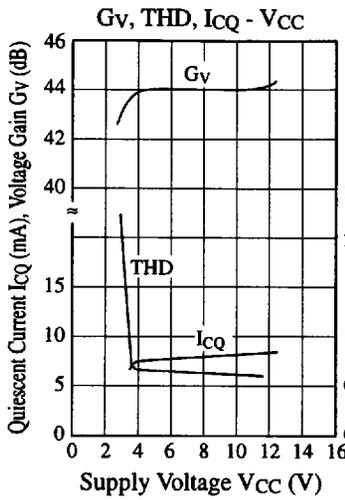
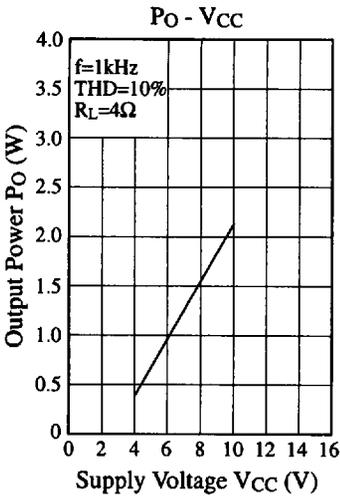


SG (Signal Generator) is separated from pin 9 at measurement of Quiescent Current and Output Noise Voltage.

■ Application Circuit



■ Characteristics Curve



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

