

# AN7140

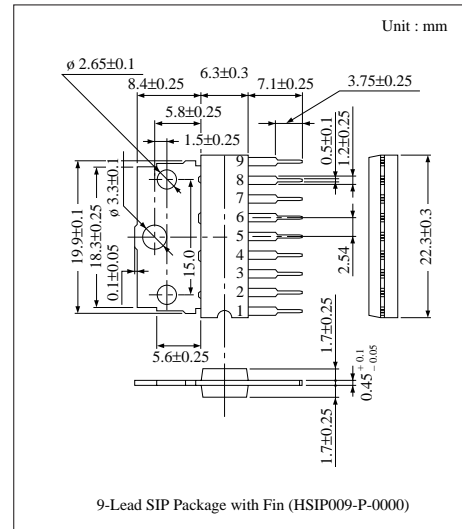
## 5W Audio Power Amplifier Circuit

### ■ Overview

The AN7140 is an integrated circuit designed for low power amplifier such as portable radio, radio cassette tape recorder and car radio. Wide supply voltage range (6 ~ 16V) enables stabilized operation. Fewer external components and 9-pin SIP package achieved compact and highly integrated set.

### ■ Features

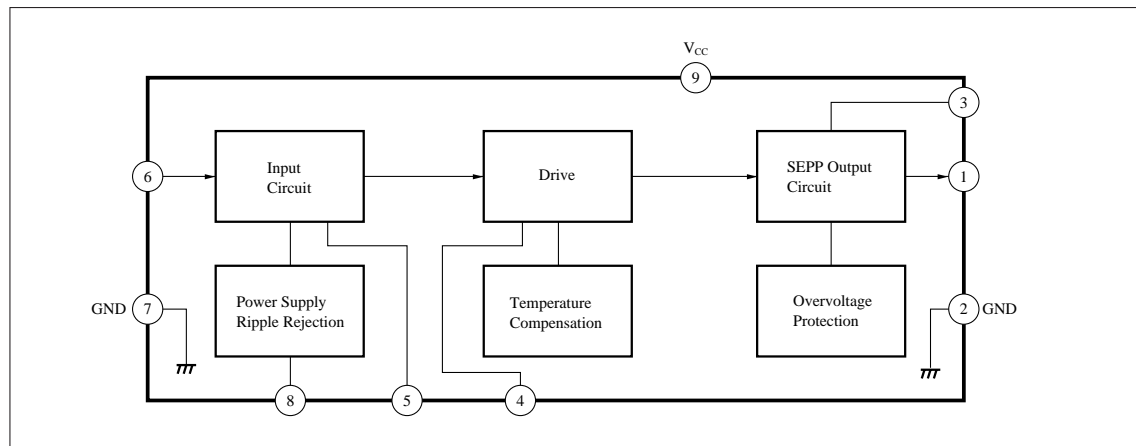
- High gain, low distortion, low noise
- Fewer external components
- Built-in thermal protection circuit
- Built-in overvoltage protection circuit
- Incorporating automatic operating point stabilizer circuit
- Low shock noise when power is switched ON and OFF



### ■ Pin Descriptions

Pin No.	Pin Name
1	Output
2	GND
3	Bootstrap
4	Phase Compensation
5	N.F.B
6	Input
7	GND
8	Ripple Filter
9	V <sub>CC</sub>

### ■ Block Diagram

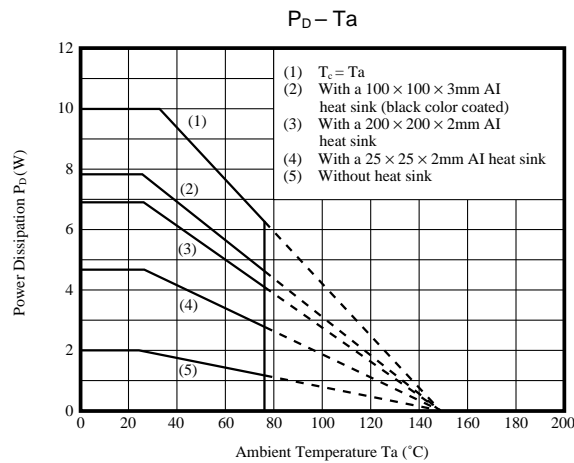


■ Absolute Maximum Ratings (Ta= 25°C)

Parameter	Symbol	Rating	Unit
Supply Voltage	V <sub>CC</sub>	20	V
Supply Current	I <sub>CC</sub>	4	A
Power Dissipation (Ta = 30°C)	P <sub>D</sub>	10	W
Operating Ambient Temperature	T <sub>opr</sub>	- 30 ~ + 75	°C
Storage Temperature	T <sub>stg</sub>	- 40 ~ + 150	°C

■ Electrical Characteristics (V<sub>CC</sub> = 13.2V, R<sub>L</sub> = 4Ω, f = 1kHz, Ta = 25°C)

Parameter	Symbol	Condition	min.	typ.	max.	Unit
Quiescent Circuit Current	I <sub>CQ</sub>	V <sub>i</sub> = 0	15	30	55	mA
Voltage Gain	G <sub>V</sub>	V <sub>i</sub> = 3mV	51.5	53.5	55.5	dB
Output Power	P <sub>O</sub>	THD = 10%	4.5	5	—	W
Total Harmonic Distortion	THD	V <sub>i</sub> = 3mV	—	0.15	1	%
Output Noise Voltage	V <sub>no</sub>	R <sub>g</sub> = 10kΩ	—	1.5	3	mV
Input Impedance	Z <sub>i</sub>		—	30	—	kΩ



■ Application Circuit

