

AN7149N

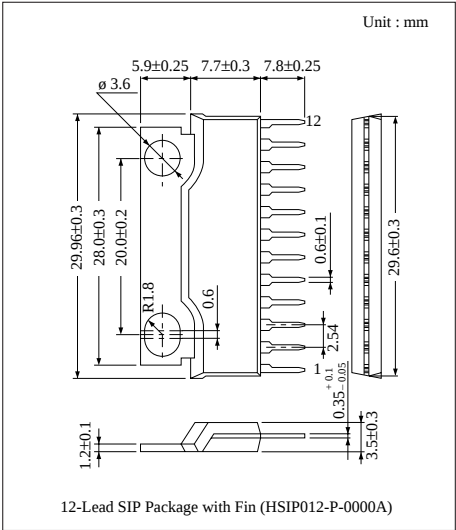
Dual 5.3W Audio Power Amplifier Circuit

■ Overview

The AN7149N is an integrated circuit designed for power amplifier of 5.3W (12.0V, 3Ω) output. Stereo operation is enabled due to incorporating two amps. on one chip. It makes high reliability by smaller quiescent current compared with power amp. current and protectors built in. As quiescent circuit current is very few, it is most suitably used for battery operated set such as radio cassette recorder. Furthermore, low distortion and low noise are realized and external components are very few. 12-pin SIL package enabled compact and high-densely mounted set.

■ Features

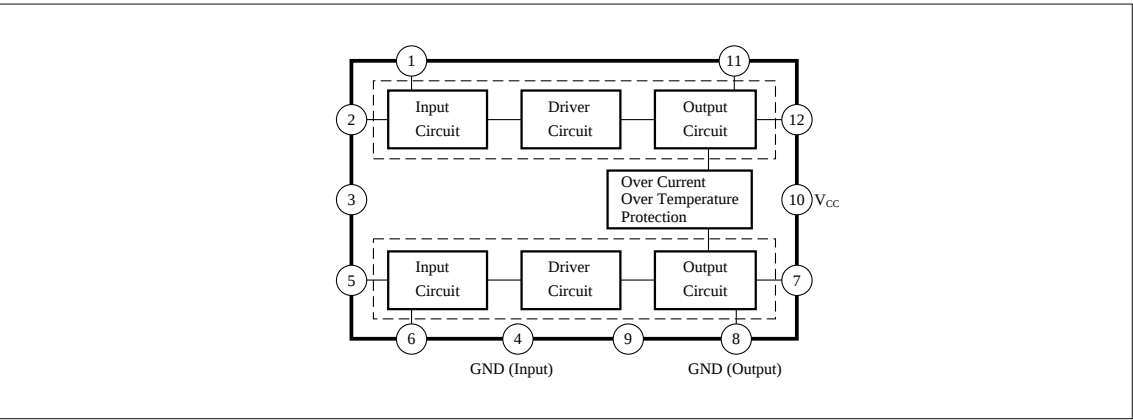
- Low quiescent current
- High operation stability
- Low radiation
- Low distortion
- Low noise
- Low shock noise from power ON/OFF operation
- Fewer external components



■ Pin Descriptions

Pin No.	Pin Name	Pin No.	Pin Name
1	N.F.B Ch.1	7	Output Ch.2
2	Input Ch.1	8	Bootstrap Ch.2
3	Ripple Filter	9	GND (Output)
4	GND (Input)	10	V _{CC}
5	Input Ch.2	11	Bootstrap Ch.1
6	N.F.B Ch.2	12	Output Ch.1

■ Block Diagram

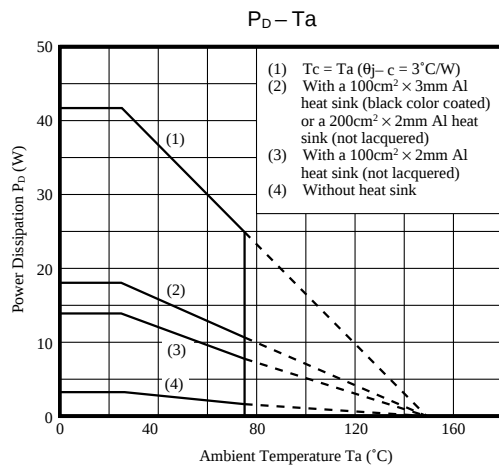


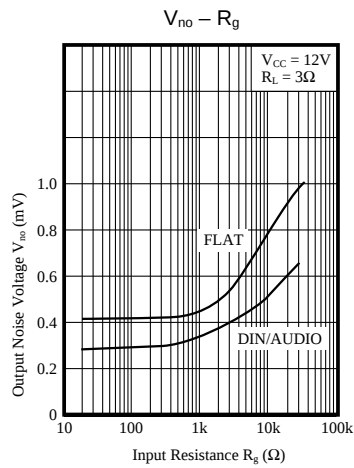
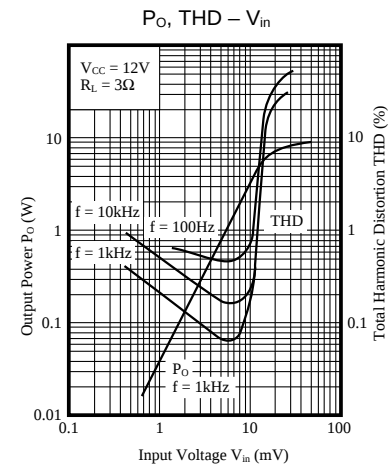
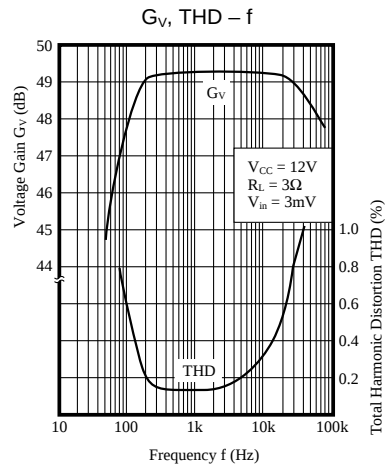
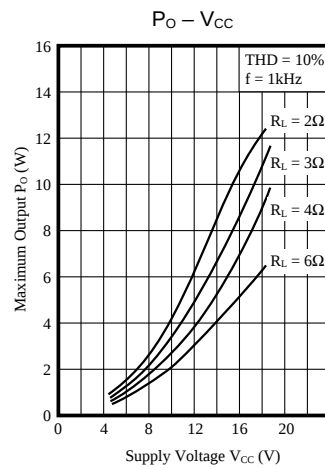
■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Rating	Unit
Supply Voltage	V_{CC}	24	V
Supply Current	I_{CC}	4	A
Power Dissipation	P_D	41.7	W
Operating Ambient Temperature	T_{opr}	-30 ~ +75	°C
Storage Temperature	T_{stg}	-55 ~ +150	°C

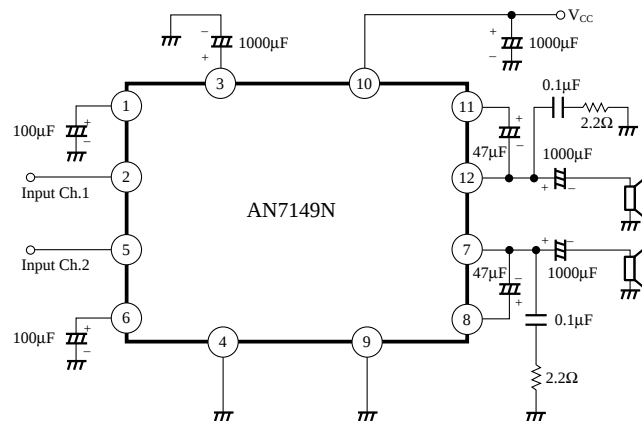
■ Electrical Characteristics ($V_{CC} = 12V$, $R_C = 3\Omega$, $f = 1kHz$, $T_a = 25^\circ C$)

Parameter	Symbol	Condition	min.	typ.	max.	Unit
Quiescent Circuit Current	I_{CQ}	$V_i = 0mV$	—	13	19	mA
Voltage Gain	G_V	$P_O = 1.0W$	47.5	49.5	51.5	dB
Total Harmonic Distortion	THD	$P_O = 1.0W$, $f = 1kHz$	—	0.2	0.5	%
Maximum Output Power	P_O	THD = 10%, $R_L = 3\Omega$	4.7	5.3	—	W
		THD = 10%, $R_L = 4\Omega$	—	4.3	—	
		THD = 10%, $V_{CC} = 9V$, $R_L = 3\Omega$	—	2.9	—	
Output Noise Voltage	V_{no}	$R_g = 10k\Omega$, $f = 15Hz \sim 30kHz$, 12dB/OCT	—	0.5	1.0	mV
Channel Balance	CB	$P_O = 0.5W$	—	0	1.0	dB
Ripple Rejection Ratio	RR	$P_O = 0.5W$	40	45	—	dB





Application Circuit



Printed Circuit Board Layout

