

AN7163

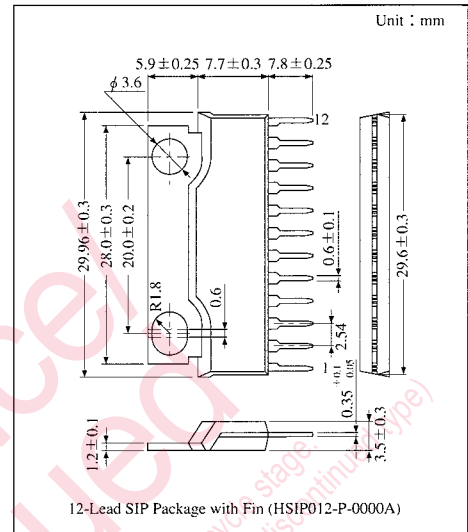
BTL 18W Audio Power Amplifier Circuit

Overview

The AN7163 is an integrated circuit designed for power amplifier of 18W (13.2V, 4Ω) output. Small quiescent circuit current, high gain and low noise enable this IC to be used for car stereo and portable stereo set.

Features

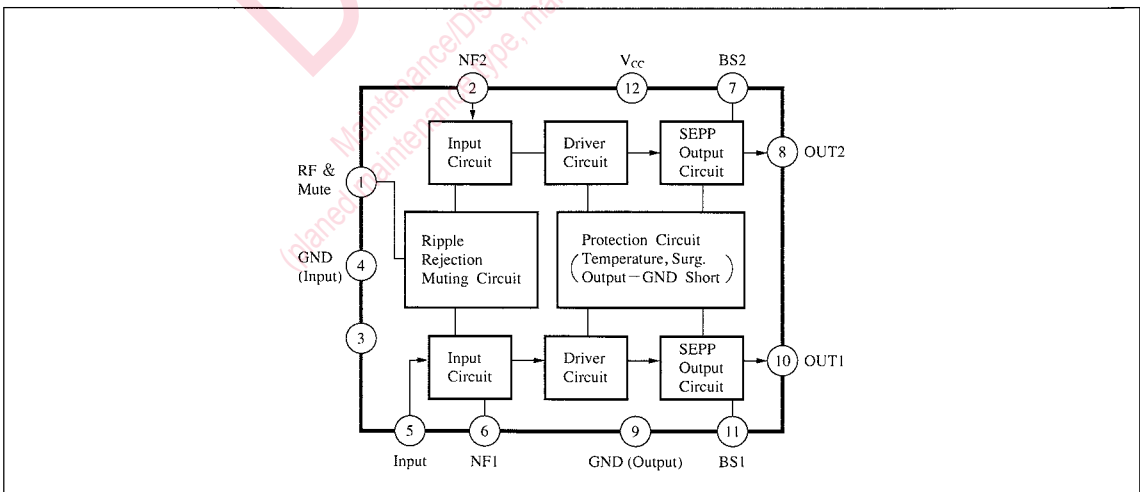
- Low quiescent current
- Low shock noise from power ON/OFF operation
- Built-in audio muting circuit
- Possible audio muting



Pin Descriptions

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

Block Diagram



■ Absolute Maximum Ratings ($T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Rating	Unit
Supply Voltage <small>Note 1)</small>	V_{CC}	24	V
Peak Supply Voltage <small>Note 2)</small>	$V_{CC(Surge)}$	50	V
Supply Current	I_{CC}	4	A
Power Dissipation	P_D <small>Note 3)</small>	41.7	W
Operating Ambient Temperature	T_{opr}	-30 ~ +75	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 ~ +150	$^{\circ}\text{C}$

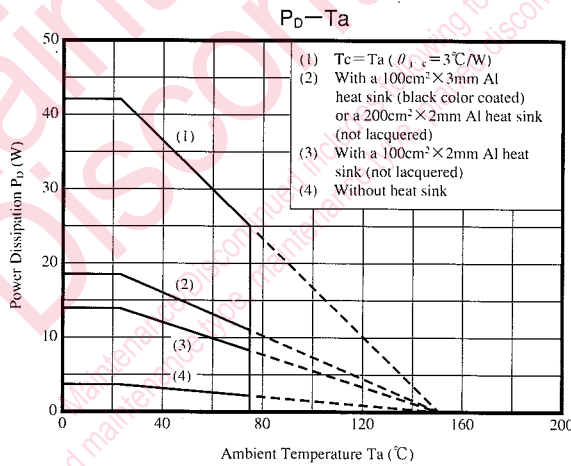
Note 1) Non-signal

Note 2) Time=0.2s

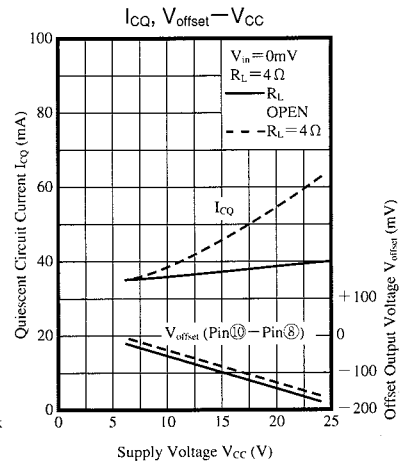
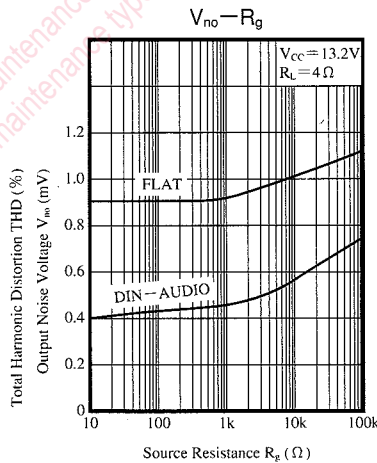
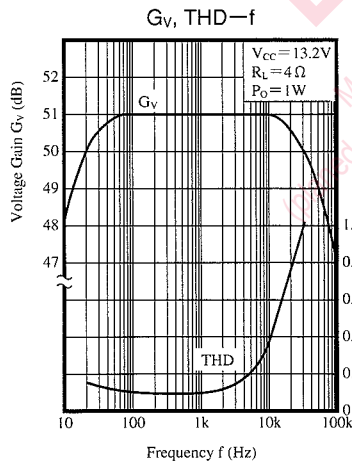
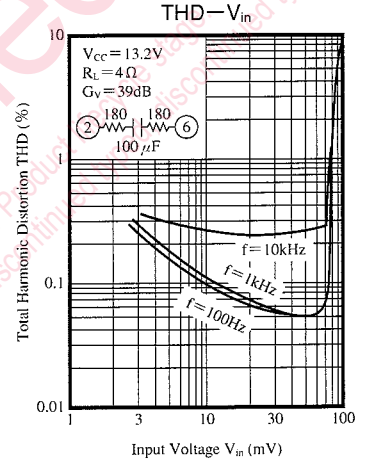
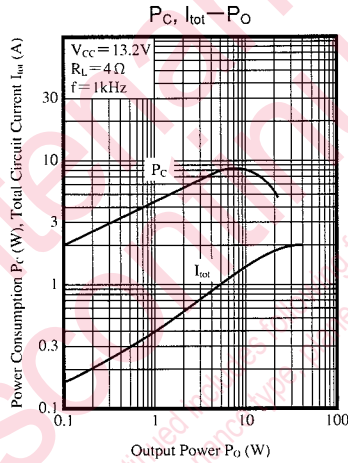
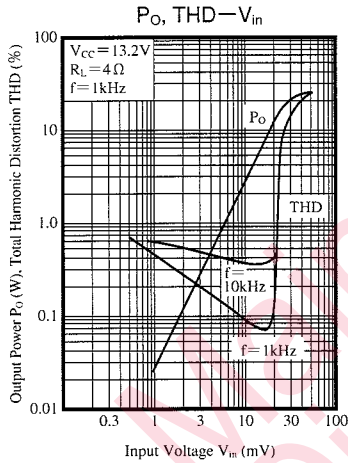
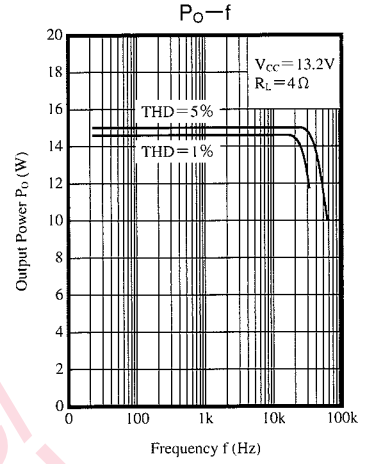
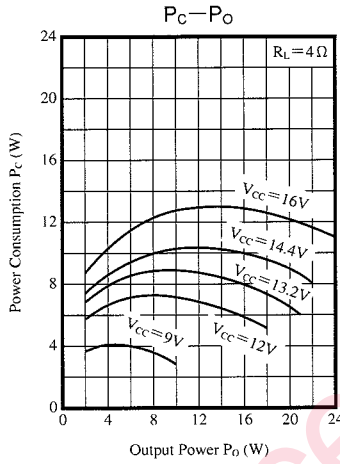
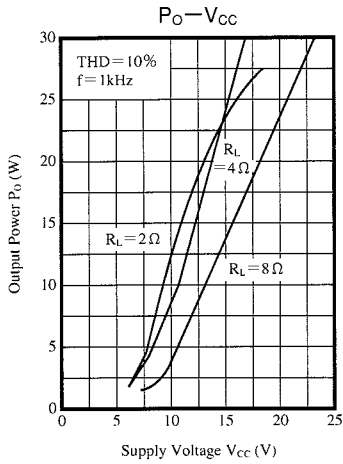
Note 3) $R_{\theta j-c}=3^{\circ}\text{C/W}$

■ Electrical Characteristics ($V_{CC}=13.2\text{V}$, $R_L=4\Omega$, $f=1\text{kHz}$, $T_a=25^{\circ}\text{C}$)

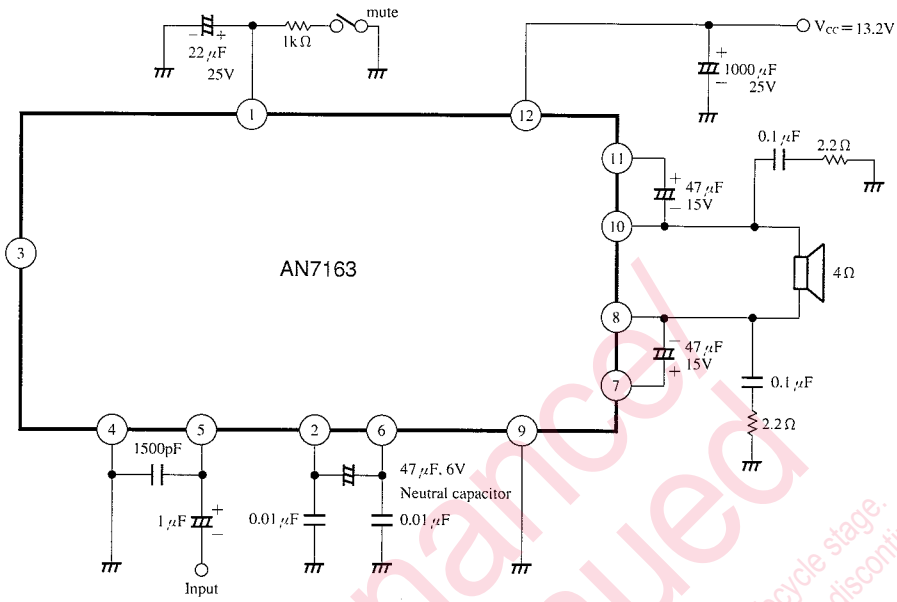
Parameter	Symbol	Condition	min.	typ.	max.	Unit
Quiescent Circuit Current	I_{CQ}	$V_{in}=0\text{mV}$	—	40	80	mA
Output Noise Voltage	V_{no}	$R_g=10\text{k}\Omega$, $V_{in}=0\text{mV}$, $f=15\text{Hz}\sim 30\text{kHz}$, 12dB/oct.	—	0.7	1.2	mV
Output Offset Voltage	V_{offset}	$V_{in}=0\text{mV}$	-200	0	+200	mV
Voltage Gain	G_V	$V_{in}=5\text{mV}$	49	51	53	dB
Total Harmonic Distortion	THD	$V_{in}=5\text{mV}$	—	0.15	0.5	%
Maximum Output Power	P_O	THD=10%	15	17	—	W
Ripple Rejection Ratio	RR	$V_{in}=0\text{mV}$, $R_g=0\Omega$, Ripple=300mV, 120Hz	35	45	—	dB



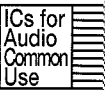
ICs for
Audio
Common
Use



■ Application Circuit



Maintenance/Discontinued
 (planned maintenance type, maintenance type, planned discontinued type, discontinued type)



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