

# AN7523

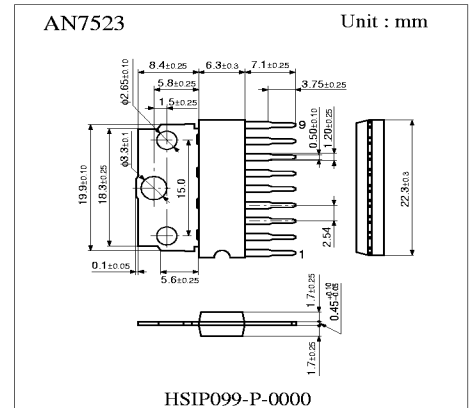
## 3W BTL Audio Power Amplifier Circuit

### ■ Features

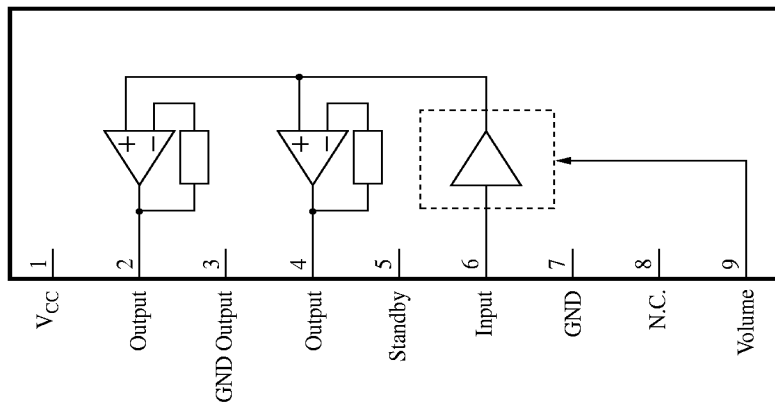
- $V_{CC}=8V$ , Output=3W( $8\Omega$ )
- Built-in Standby function.
- Built-in DC volume circuits.

### ■ Applications

- TVs, Audio equipment



### ■ Block Diagram



## ■ Pin Descriptions

Pin No.	Function
1	Vcc
2	ch1 Output(+)
3	GND(Output1)
4	ch1 Output(-)
5	Standby
6	ch1 Input
7	GND
8	N.C
9	DC volume

## ■ Absolute Maximum Ratings

Parameter	Symbol	Ratio	Unit	Note
Storage temperature	T <sub>stg</sub>	-55 to +150	°C	1
Operating ambient temperature	T <sub>opr</sub>	-25 to +70	°C	1
Supply voltage	V <sub>cc</sub>	14	V	2
Supply current	I <sub>cc</sub>	1.0	A	
Power dissipation	P <sub>D</sub>	1220	mW	T <sub>a</sub> =70°C

Note1) T<sub>a</sub>=25°C except storage temperature and operating ambient temperature.

Note2) At no-signal.

## ■ Operating Supply Voltage Range

Operating supply voltage range	V <sub>cc</sub>	3.5V to 13.5V
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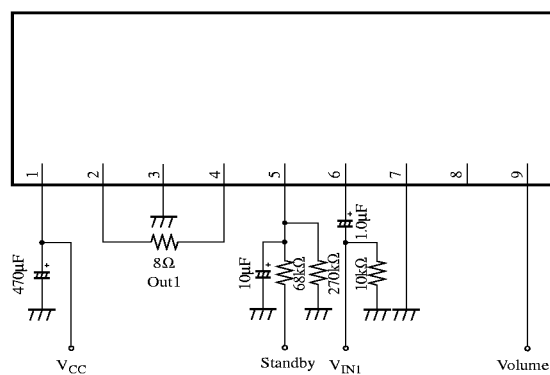
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### ■ Electrical Characteristics ( $V_{CC}=5.0V, R_L=8\Omega, \text{freq}=1\text{kHz}, T_a=25^\circ\text{C} \pm 2^\circ\text{C}$ )

Parameter	Symbol	Condition	min.	typ.	max.	Unit	Note
Quiescent current	ICQ	$V_{IN}=0\text{mV}, V_{ol}=0\text{V}$	–	25	60	mA	
Standby current	ISTB	$V_{IN}=0\text{mV}, V_{ol}=0\text{V}$	–	1	10	$\mu\text{A}$	
Output noise voltage	VNO	$R_g=10\text{k}\Omega, V_{ol}=0\text{V}$	–	0.10	0.4	mVrms	1
Voltage gain	GV	$P_O=0.25\text{W}, V_{ol}=1.25\text{V}$	31	33	35	dB	
Total harmonic distortion	THD	$P_O=0.25\text{W}, V_{ol}=1.25\text{V}$	–	0.10	0.5	%	
Maximum power output	PO	$\text{THD}=10\%, V_{ol}=1.25\text{V}$	2.4	3.0	–	W	
Ripple rejection ratio	RR	$R_g=10\text{k}\Omega, V_{ol}=0\text{V}$ $V_r=0.5\text{Vrms}, f_r=120\text{Hz}$	30	50	–	dB	1
Output offset voltage	Voff	$R_g=10\text{k}\Omega, V_{ol}=0\text{V}$	-250	0	250	mV	
Maximum attenuation	Att	$P_O=0.5\text{W}, V_{ol}=0\text{V}$	70	85	–	dB	1
Center voltage gain	GVM	$P_O=0.5\text{W}, V_{ol}=0.6\text{V}$	20.5	23.5	26.5	dB	
Standby terminal current	ISTB	$V_{IN}=0\text{mV}, V_{STB}=3\text{V}$	–	–	25	$\mu\text{A}$	
Volume terminal current	Ivol	$V_{IN}=0\text{mV}, V_{ol}=0\text{V}$	-12	–	–	$\mu\text{A}$	

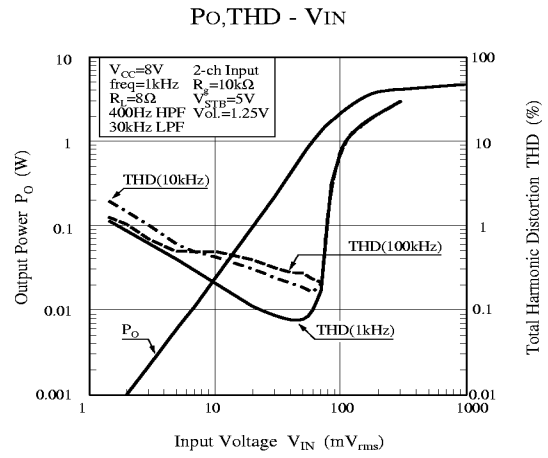
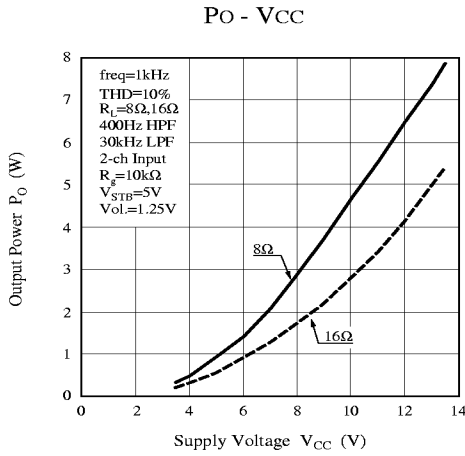
Note1) For this measurement, use the filter <Bandwidth: 15Hz to 30kHz(12dB/octave)>

### ■ Application Circuit

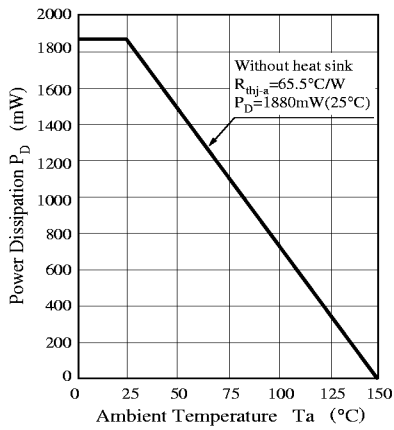


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■ Characteristic Curve



■ Package Power Dissipation



■ Printed Board Circuit Layout

