

AN7522

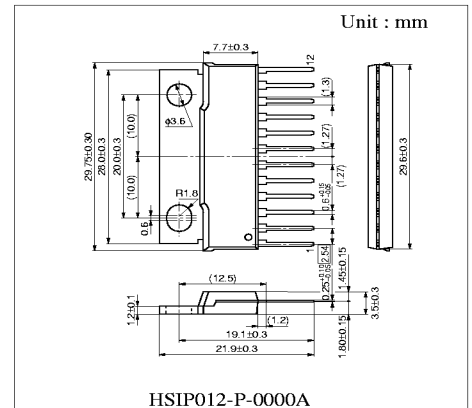
Dual 3W BTL Audio Power Amplifier Circuit

■ Features

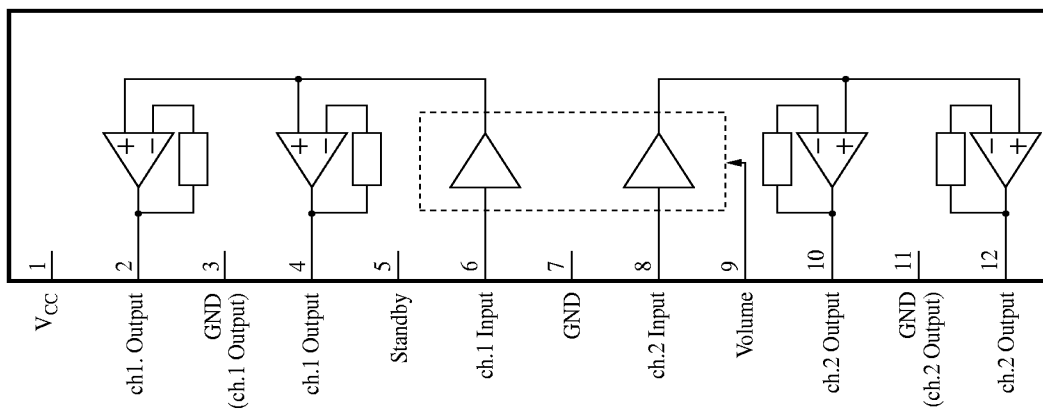
- $V_{cc}=8V$, Output=3W(8Ω)
- Built-in Standby function.
- Built-in DC volume circuits.

■ Applications

- TVs, Audio equipment, Personal computers, Active speakers



■ Block Diagram



■ Pin Descriptions

Pin No.	Function	Pin No.	Function
1	V _{cc}	7	GND(Intput)
2	ch1 Output(+)	8	ch2 Input
3	GND(Output ch1)	9	DC Volume
4	ch1 Output(-)	10	ch2 Output(-)
5	Standby	11	GND(Output ch2)
6	ch1 Input	12	ch2 Output(+)

■ Absolute Maximum Ratings

Parameter	Symbol	Ratio	Unit	Note
Storage temperature	T _{stg}	-55 to +150	°C	1
Operating ambient temperature	T _{opr}	-25 to +70	°C	1
Supply voltage	V _{cc}	14	V	2
Supply current	I _{cc}	2.0	A	
Power dissipation	P _D	1920	mW	T _a =70°C

Note1) T_a=25°C except storage temperature and operating ambient temperature.

Note2) At no-signal.

■ Operating Supply Voltage Range

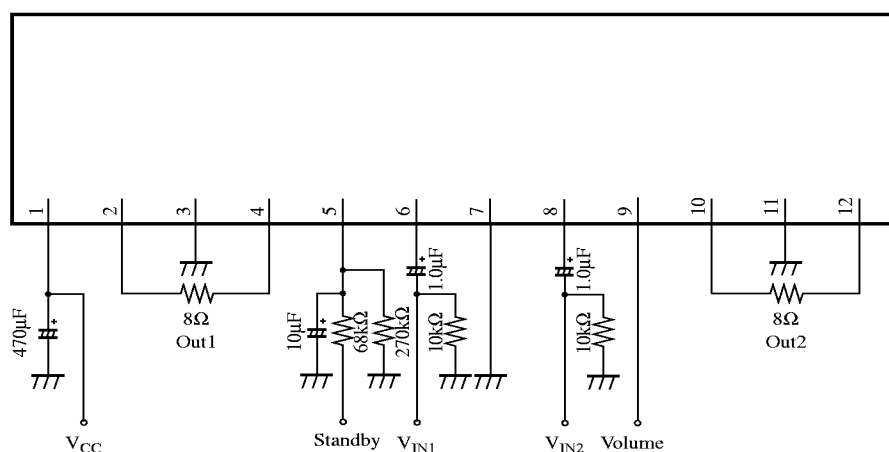
Operating supply voltage range	V _{cc}	3.5V to 13.5V
--------------------------------	-----------------	---------------

Panasonic

Electrical Characteristics ($V_{CC}=5.0V, R_L=8\Omega, \text{freq}=1\text{kHz}, T_a=25^\circ\text{C} \pm 2^\circ\text{C}$)

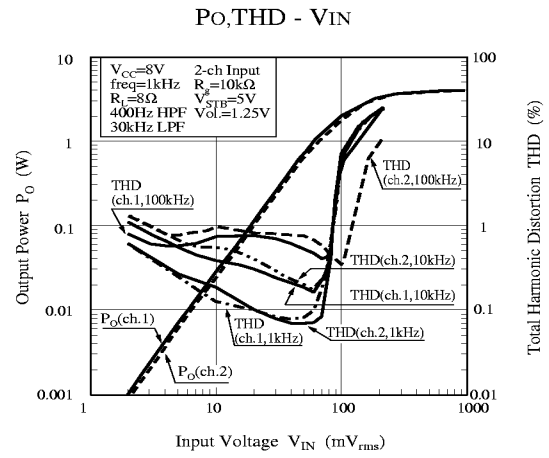
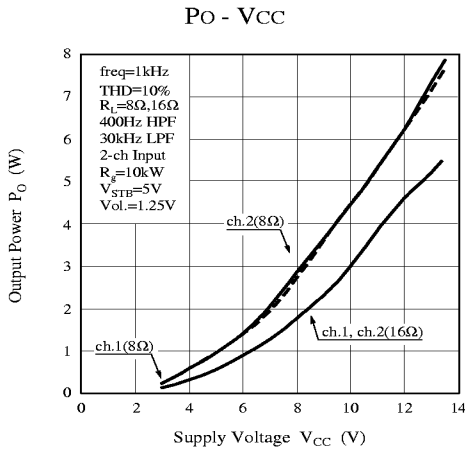
Parameter	Symbol	Condition	min.	typ.	max.	Unit	Note
Quiescent current	ICQ	$V_{IN}=0\text{mV}, \text{Vol.}=0\text{V}$	–	45	100	mA	
Standby current	ISTB	$V_{IN}=0\text{mV}, \text{Vol.}=0\text{V}$	–	1	10	μA	
Output noise voltage	VNO	$R_g=10\text{k}\Omega, \text{Vol.}=0\text{V}$	–	0.10	0.4	mVrms	1
Voltage gain	GV	$P_O=0.25\text{W}, \text{Vol.}=1.25\text{V}$	32	34	36	dB	
Total harmonic distortion	THD	$P_O=0.25\text{W}, \text{Vol.}=1.25\text{V}$	–	0.10	0.5	%	
Maximum power output	PO	$\text{THD}=10\%, \text{Vol.}=1.25\text{V}$	2.4	3.0	–	W	
Ripple rejection ratio	RR	$R_g=10\text{k}\Omega, \text{Vol.}=0\text{V}$ $V_r=0.5\text{Vrms}, \text{fr}=120\text{Hz}$	30	50	–	dB	1
Output offset voltage	Voff	$R_g=10\text{k}\Omega, \text{Vol.}=0\text{V}$	-250	0	250	mV	
Maximum attenuation	Att	$P_O=0.25\text{W}, \text{Vol.}=0\text{V}$	70	90	–	dB	1
Input impedance	ZI	$V_{IN}=\pm 0.3\text{VDC}$	24	30	36	$\text{k}\Omega$	
Channel balance1	CB1	$P_O=0.25\text{W}, \text{Vol.}=1.25\text{V}$	-1	0	1	dB	
Channel balance2	CB2	$P_O=0.25\text{W}, \text{Vol.}=0.6\text{V}$	-3	0	3	dB	
Center voltage gain	GVM	$P_O=0.25\text{W}, \text{Vol.}=0.6\text{V}$	21	24	27	dB	
Channel crosstalk	CT	$P_O=0.25\text{W}, \text{Vol.}=1.25\text{V}$	44	55	–	dB	

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

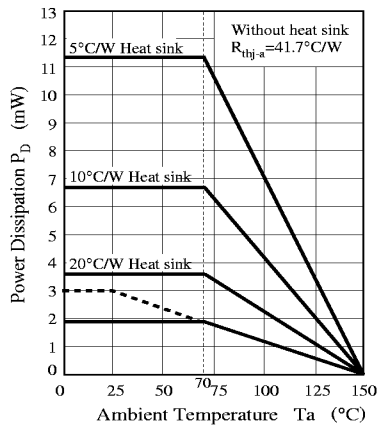
Application Circuit


Panasonic

■ Characteristic Curve



■ Package Power Dissipation



■ Printed Board Circuit Layout

