

# AN7512, AN7512S

## Dual 0.5,1W BTL Audio Power Amplifier Circuit

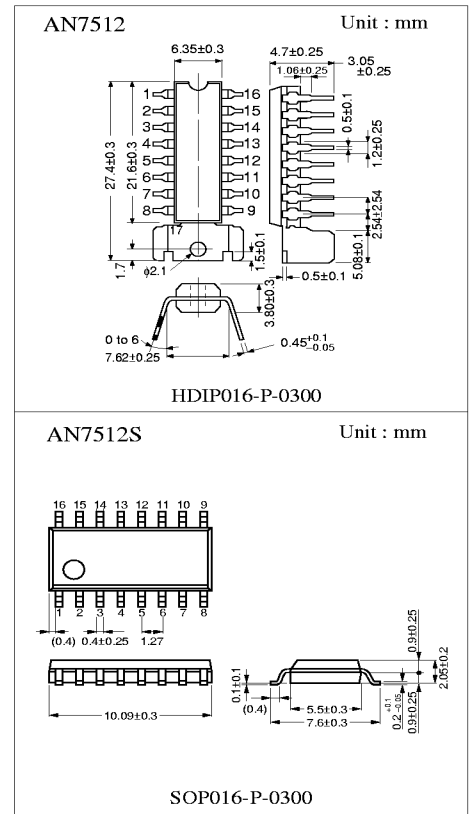
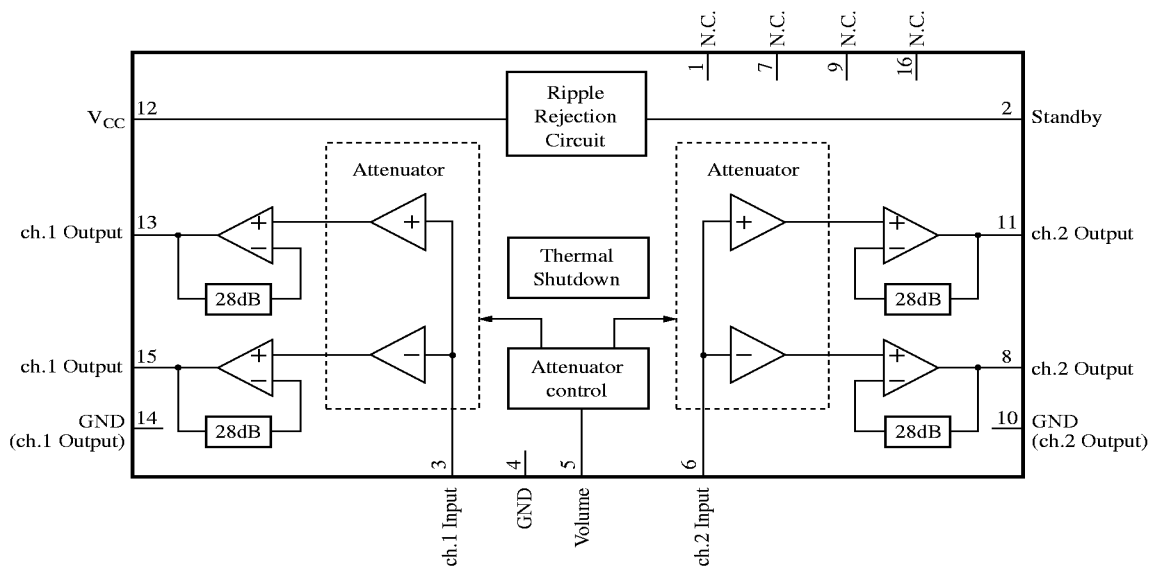
### ■ Features

- AN7512:  $V_{cc}=5V$ , Output=1W(8Ω)
- AN7512S:  $V_{cc}=5V$ , Output=0.5W(16Ω)
- 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	N.C	9	N.C
2	Standby	10	GND(Output ch2)
3	ch1 Input	11	ch2 Output(+)
4	GND(Input)	12	Vcc
5	DC volume	13	ch1 Output(+)
6	ch2 Input	14	GND(Output ch1)
7	N.C	15	ch1 Output(-)
8	ch2 Output(-)	16	N.C

## ■ Absolute Maximum Ratings

Parameter	Symbol	Ratio	Unit	Note
Storage temperature	T <sub>stg</sub>	AN7512 -55 to +150	°C	1
		AN7512S -55 to +125		
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>	2.0	A	
Power dissipation	P <sub>D</sub>	AN7512 1127	mW	Ta=70°C
		AN7512S 236		

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

Note2) At no-signal.

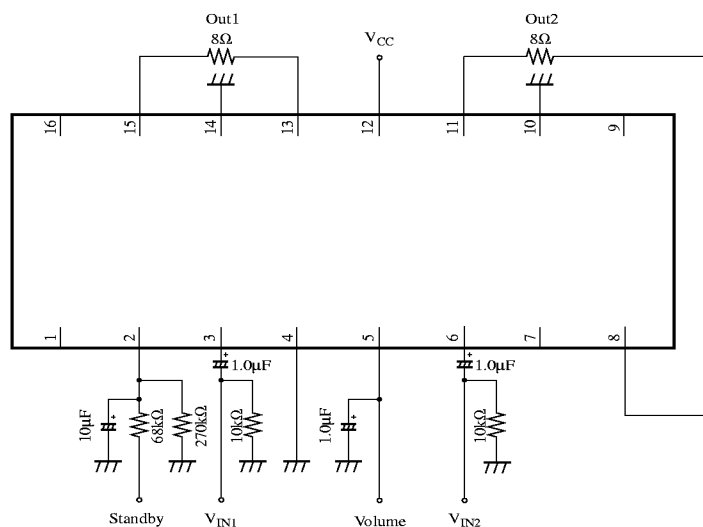
## ■ Operating Supply Voltage Range

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

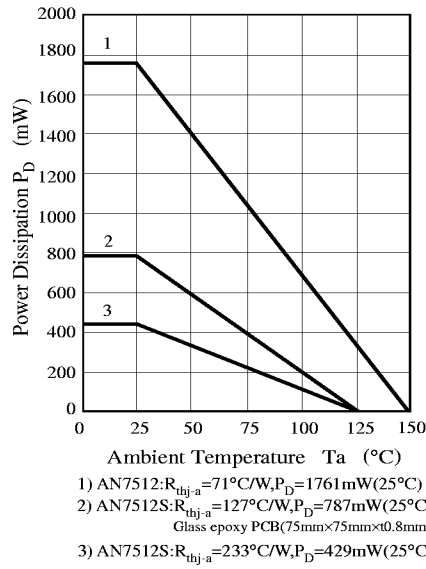
Parameter	Symbol	Condition	min.	typ.	max.	Unit	Note
Quiescent current	ICQ	$V_{IN}=0\text{mV}, V_{ol}=0\text{V}$	–	35	100	mA	
Standby current	ISTB	$V_{IN}=0\text{mV}, V_{ol}=0\text{V}$	–	1	10	$\mu\text{A}$	
Output noise voltage	VNO	$R_g=10\text{k}\Omega, V_{ol}=0\text{V}$	–	0.10	0.4	mVrms	1
Voltage gain	GV	$P_O=0.25\text{W}, V_{ol}=1.25\text{V}$	32	34	36	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	$\text{THD}=10\%, V_{ol}=1.25\text{V}$	0.8	1.1	–	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	$P_O=0.25\text{W}, V_{ol}=0\text{V}$	70	90	–	dB	1
Input impedance	ZI	$V_{IN}=\pm 0.3\text{VDC}$	24	30	36	$\text{k}\Omega$	
Channel balance1	CB1	$P_O=0.25\text{W}, V_{ol}=1.25\text{V}$	-1	0	1	dB	
Channel balance2	CB2	$P_O=0.25\text{W}, V_{ol}=0.6\text{V}$	-3	0	3	dB	
Center voltage gain	GVM	$P_O=0.25\text{W}, V_{ol}=0.6\text{V}$	22	25	28	dB	
Channel crosstalk	CT	$P_O=0.25\text{W}, V_{ol}=1.25\text{V}$	40	55	–	dB	

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

**■ Application Circuit**


**Panasonic**

■ Package Power Dissipation



■ Printed Board Circuit Layout

