

# AN7512, AN7512S

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

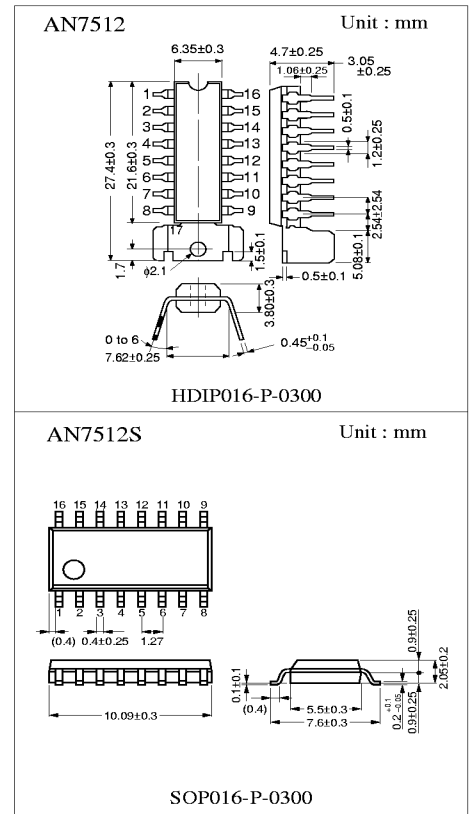
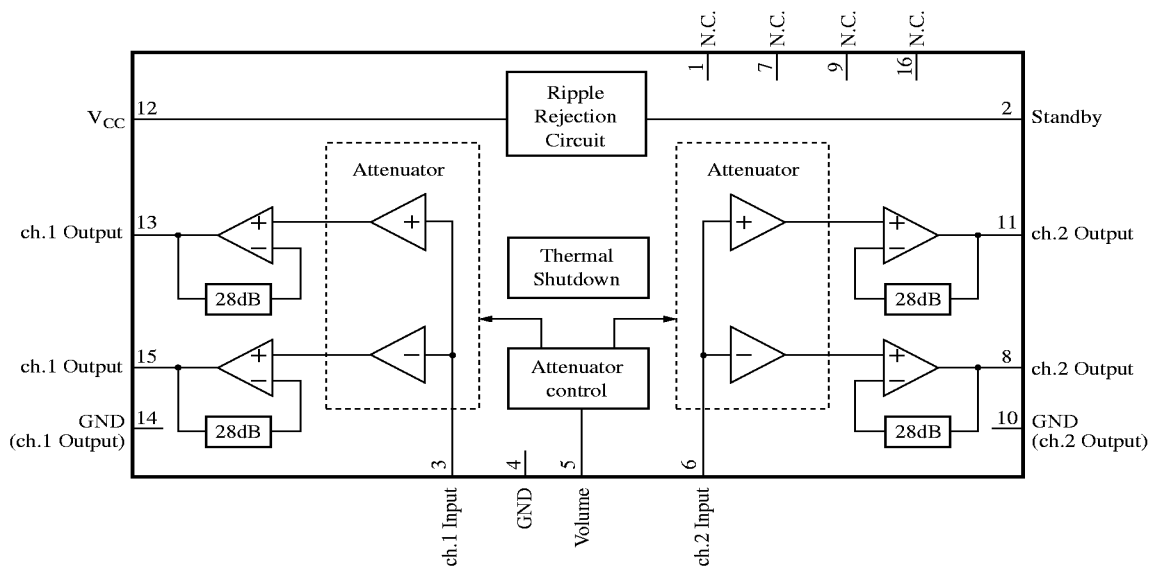
### ■ Features

- 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.

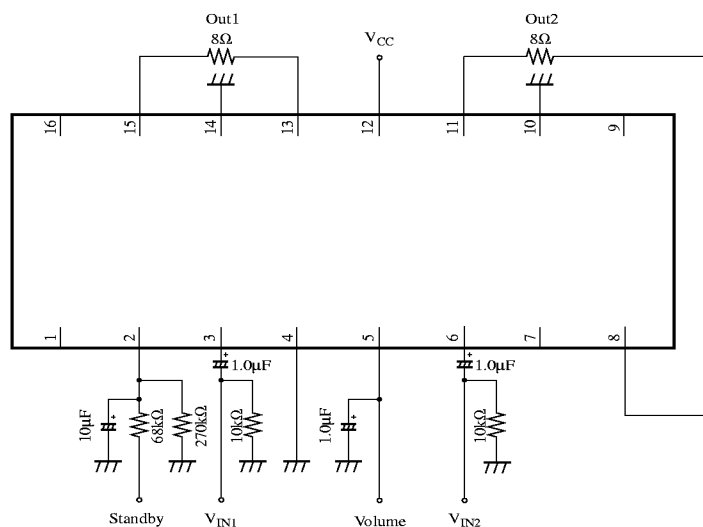
## ■ Operating Supply Voltage Range

Operating supply voltage range	V <sub>cc</sub>	3.5V to 13.5V
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**■ Electrical Characteristics (V<sub>CC</sub>=5.0V, R<sub>L</sub>=8Ω, freq=1kHz, T<sub>a</sub>=25°C ±2 °C)**

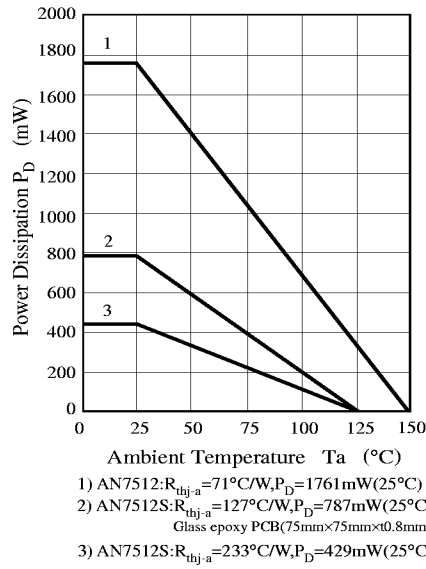
Parameter	Symbol	Condition	min.	typ.	max.	Unit	Note
Quiescent current	ICQ	V <sub>IN</sub> =0mV, Vol.=0V	–	35	100	mA	
Standby current	ISTB	V <sub>IN</sub> =0mV, Vol.=0V	–	1	10	μA	
Output noise voltage	V <sub>NO</sub>	R <sub>g</sub> =10kΩ, Vol.=0V	–	0.10	0.4	mV <sub>rms</sub>	1
Voltage gain	G <sub>V</sub>	P <sub>O</sub> =0.25W, Vol.=1.25V	32	34	36	dB	
Total harmonic distortion	THD	P <sub>O</sub> =0.25W, Vol.=1.25V	–	0.10	0.5	%	
Maximum power output	P <sub>O</sub>	THD=10%, Vol.=1.25V	0.8	1.1	–	W	
Ripple rejection ratio	RR	R <sub>g</sub> =10kΩ, Vol.=0V V <sub>r</sub> =0.5V <sub>rms</sub> , fr=120Hz	30	50	–	dB	1
Output offset voltage	V <sub>off</sub>	R <sub>g</sub> =10kΩ, Vol.=0V	-250	0	250	mV	
Maximum attenuation	Att	P <sub>O</sub> =0.25W, Vol=0V	70	90	–	dB	1
Input impedance	Z <sub>I</sub>	V <sub>IN</sub> =±0.3V <sub>DC</sub>	24	30	36	kΩ	
Channel balance1	CB1	P <sub>O</sub> =0.25W, Vol=1.25V	-1	0	1	dB	
Channel balance2	CB2	P <sub>O</sub> =0.25W, Vol=0.6V	-3	0	3	dB	
Center voltage gain	G <sub>VM</sub>	P <sub>O</sub> =0.25W, Vol=0.6V	22	25	28	dB	
Channel crosstalk	CT	P <sub>O</sub> =0.25W, Vol=1.25V	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

