

AN7513, AN7513S

0.5,1W BTL Audio Power Amplifier Circuit

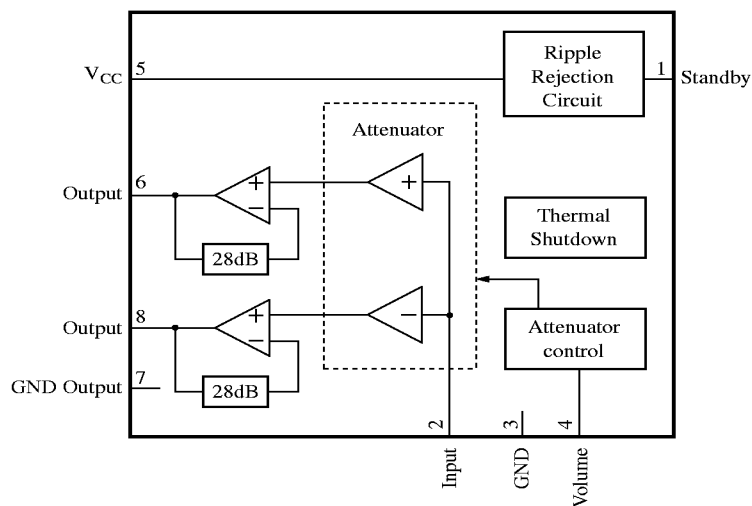
■ Features

- AN7513: $V_{CC}=5V$, Output=1W(8Ω)
- AN7513S: $V_{CC}=5V$, Output=0.5W(16Ω)
- Built-in Standby function.
- Built-in DC volume circuits.

■ Applications

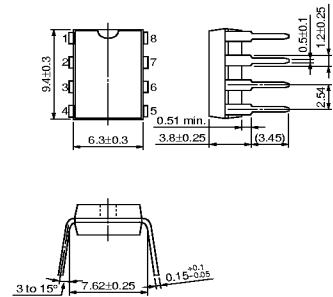
- TVs, Audio equipment, Personal computers

■ Block Diagram



AN7513

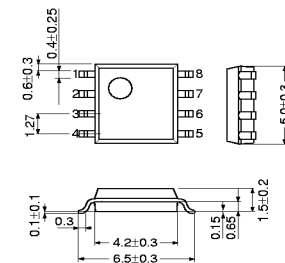
Unit : mm



DIP008-P-0300B

AN7513S

Unit : mm



SOP008-P-0225A

■ Pin Descriptions

Pin No.	Function
1	Standby
2	ch1 Input
3	GND(Input)
4	DC volume
5	Vcc
6	ch1 Output(+)
7	GND(Output1)
8	ch1 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}	1.0	A	
Power dissipation	P _D	AN7513 541 AN7513S 245	mW	Ta=70°C

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

Note2) At no-signal.

■ Operating Supply Voltage Range

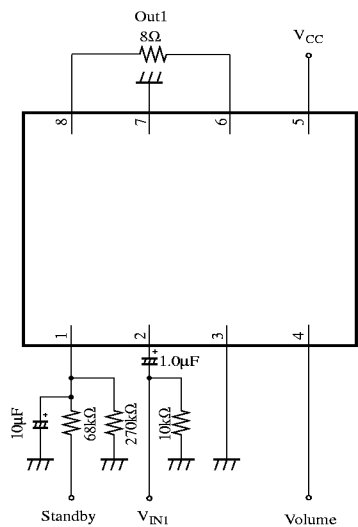
Operating supply voltage range	V _{cc}	3.5V to 13.5V
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■ Electrical Characteristics (Vcc=5.0V,RL=8Ω,freq=1kHz,Ta=25°C ±2 °C)

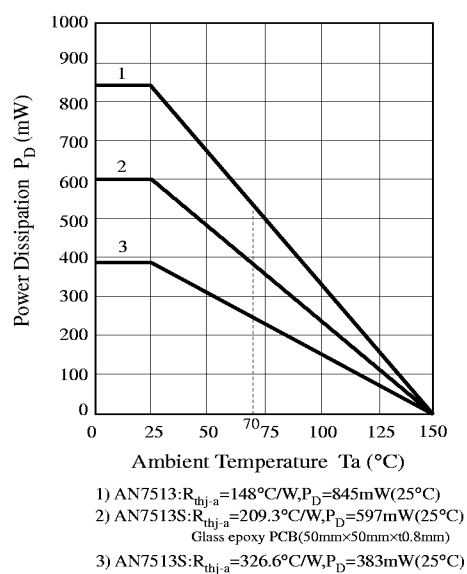
Parameter	Symbol	Condition	min.	typ.	max.	Unit	Note
Quiescent current	ICQ	VIN=0mV,Vol.=0V	–	20	60	mA	
Standby current	ISTB	VIN=0mV,Vol.=0V	–	1	10	μA	
Output noise voltage	VNO	Rg=10kΩ,Vol.=0V	–	0.10	0.4	mVrms	1
Voltage gain	Gv	PO=0.25W,Vol.=2.5V	31	33	35	dB	
Total harmonic distortion	THD	PO=0.25W,Vol.=2.5V	–	0.10	0.5	%	
Maximum power output	PO	THD=10%,Vol.=2.5V	0.7	1.0	–	W	
Ripple rejection ratio	RR	Rg=10kΩ,Vol.=0V Vr=1.0Vrms,fr=120Hz	30	50	–	dB	1
Output offset voltage	Voff	Rg=10kΩ,Vol.=0V	-250	0	250	mV	
Maximum attenuation	Att	PO=0.25W,Vol=0V	70	85	–	dB	1
Center voltage gain	GVM	PO=0.25W,Vol=0.1.25V	20.5	23.5	26.5	dB	

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

■ Application Circuit



■ Package Power Dissipation



■ Printed Board Circuit Layout

