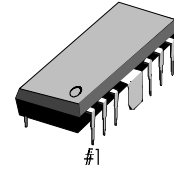## INTRODUCTION

The S1A2206D01 is a monolithic integrated circuit consisting of a 2-channel power amplifier. It is suitable for the stereo and bridge amplifier application of *a* radio cassette tape recorder.
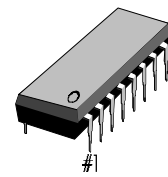
12-DIPH-300

16-DIP-300A

#1

FEATURES

- High power output
  Stereo : P_O = 2.3 W (Typ) at V_{CC} = 9 V, R_L = 4
  Bridge : P_O = 4.7 W (Typ) at V_{CC} = 9 V, R_L = 8

- Low switching distortion at high frequency

- Reduced shock noise at the time of power on/off due to a built-in muting circuit

- Good ripple rejection due to a built-in ripple filter

- Good channel separation

- Soft tone at the time of output saturation

- Closed loop voltage gain fixed at 45dB (Bridge : 51 dB) but availability with external resistor added

- Minimum number of external parts required

- Easy-to-design radiator fin

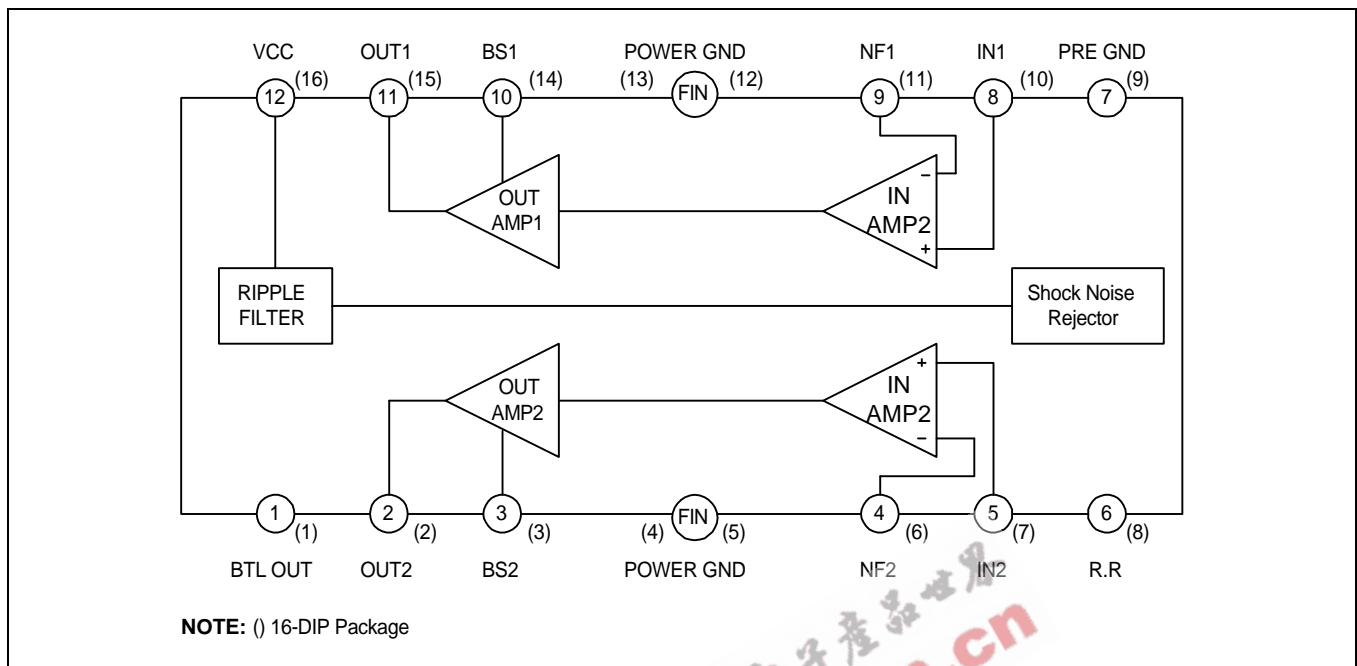## ORDERING INFORMATION

Device	Package	Operating Temperature
S1A2206D01-H0B0	12-DIPH-300	$-20°C - +70°C$
S1A2206D01-D0B0	16-DIP-300A	

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BLOCK DIAGRAM

NOTE: () 16-DIP Package

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

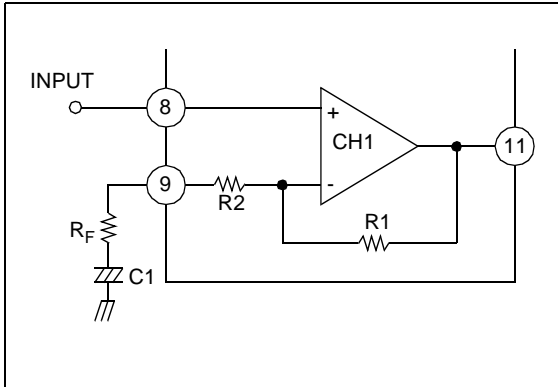| Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	15	V
Power Dissipation	P_D	(*) 4	W
Operating Temperature	T_{OPR}	− 20 — +70	°C
Storage Temperature	T_{STG}	− 40 — +150	°C

* Fin is soldered on the PCB

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ELECTRICAL CHARACTERISTICS

(Ta = 25°C, V_{CC} = 9V, f = 1kHz, R_G = 600Ω, unless otherwise specified)

Characteristic	Symbol	Test Conditions		Min	Typ	Max	Unit
Operating Supply Voltage	V_{CC}	–		–	9	11	V
Quiescent Circuit Current	I_{CCQ}	V_I = 0, Stereo		–	40	55	mA
Closed Loop Voltage Gain	G_{VC}	Stereo	V_I = -45 dBm	43	45	47	dB
		Bridge		49	51	53	dB
Channel Balance	CB	Stereo	–	−1	0	+1	dB
Power Output	PO	Stereo	R_L= 4, THD = 10 %,	1.7	2.3	–	W
			R_L= 8, THD = 10 %,	–	1.3	–	W
		Bridge	R_L= 8, THD = 10 %,	–	4.7	–	W
Total Harmonic Distortion	THD	Stereo	P_O= 250 mW, R_L = 4Ω	–	0.3	1.5	%
		Bridge		–	0.5	–	%
Input Resistance	R_I	–		21	30	–	kΩ
Ripple Rejection Ratio	RR	Stereo,R_G = 0, V_I = 150mW f =100Hz		40	46	–	dB
Output Noise Voltage	V_{NO}	Stereo,R_G = 0Ω		–	0.3	1.0	mV
		Stereo,R_G = 10kΩ		–	0.5	2.0	mV
Cross Talk	CT	Stereo,R_G = 10kΩ, V_O = 0dBm		40	55	–	dB

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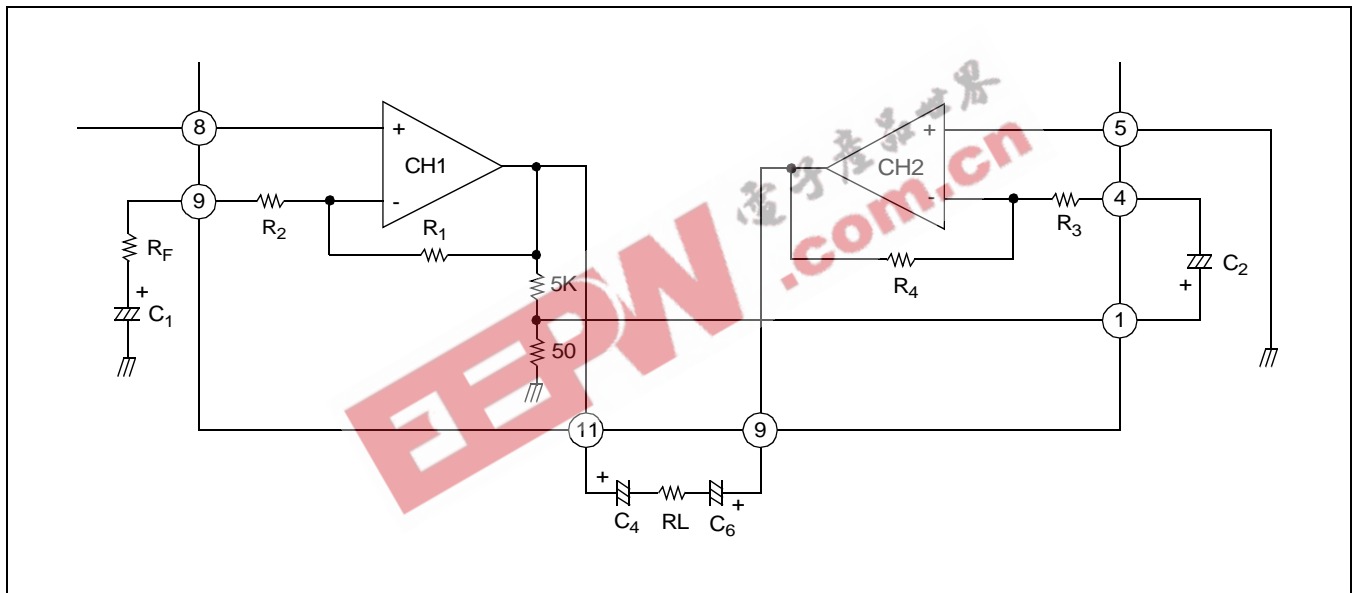
APPLICATION INFORMATION

1.Stereo *Application*

i) Fixed voltage gain
(Pin 9 connected to GND directly)

$$Gv = 20\log\frac{R1}{R2}(dB)$$

ii) Variable voltage gain
(Rf and C_1 connected with pin 9)

$$Gv = 20\log\frac{R1}{R2 + RF}(dB)$$

2. Bridge *Application*

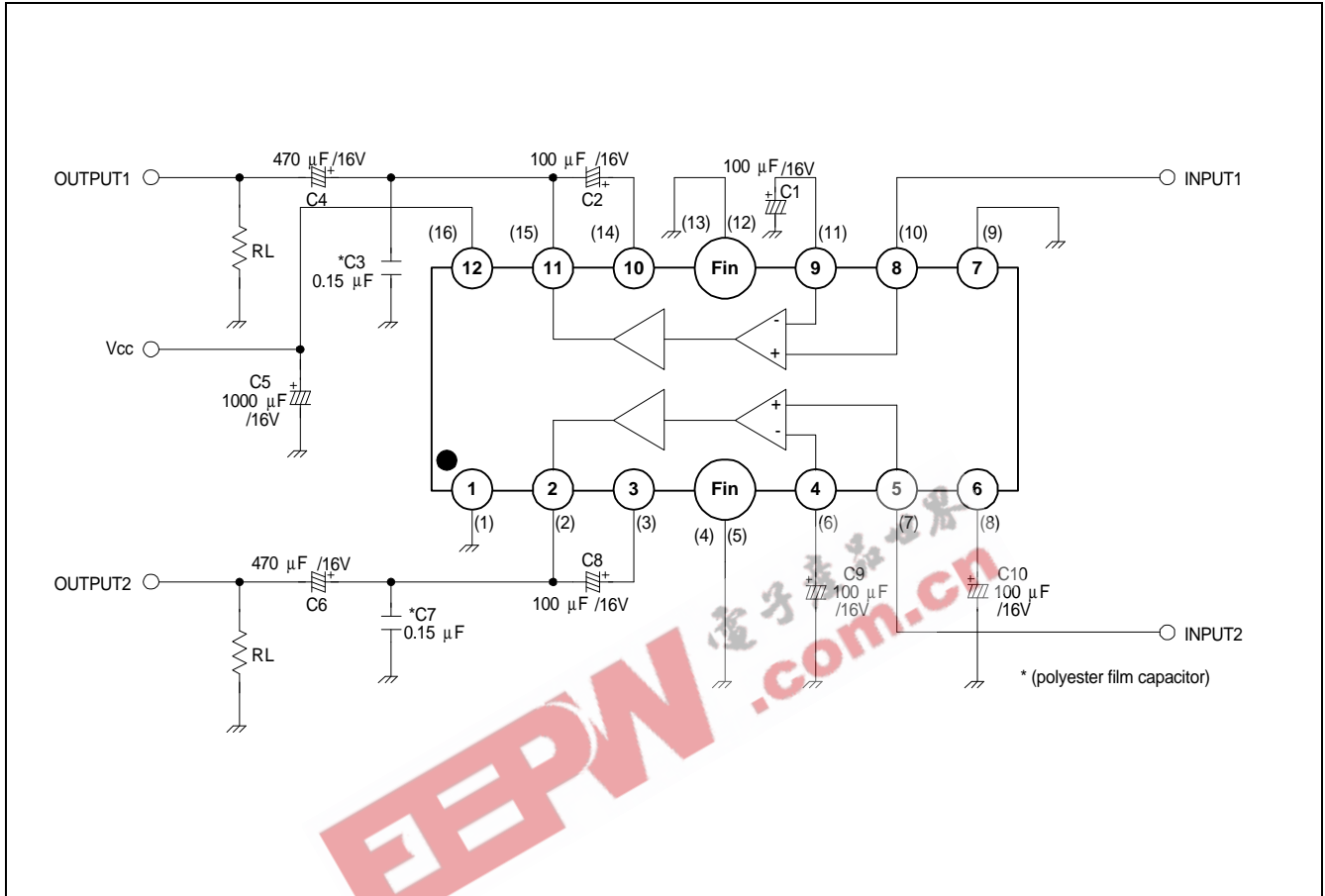### i) Fixed voltage gain (Pin 9 connected to GND directly)

$$Gv = 20\log\left(\frac{R1}{R2} + 6(dB)\right)$$

ii) Variable voltage gain R_F and C_1 connected with pin 9)

$$Gv = 20\log\left(\frac{R1}{R2 + RF} + 6(dB)\right)$$

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APPLICATION CIRCUIT

1. Stereo Amplifier

2. Bridge Amplifier