

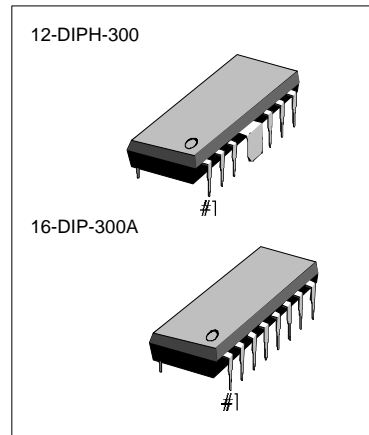
KA2206B

2.3W DUAL AUDIO POWER AMP

The KA2206B is a monolithic integrated circuit consisting of a 2-channel power amplifier. It is suitable for stereo and bridge amplifier application of radio cassette tape recorder.

FEATURES

- High output power
Stereo : $P_o = 2.3W$ (Typ) at $V_{CC} = 9V$, $R_L = 4\Omega$.
Bridge : $P_o = 4.7W$ (Typ) at $V_{CC} = 9V$, $R_L = 8\Omega$
- Low switching distortion at high frequency.
- Small 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 45dB (Bridge : 51dB) but availability with external resistor added.
- Minimum number of external parts required.
- Easy to design radiator fin.



ORDERING INFORMATION

Device	Package	Operating Temperature
KS2206B	12-DIPH-300	-20°C ~ +70°C
KS22069BN	16-DIP-300A	

BLOCK DIAGRAM

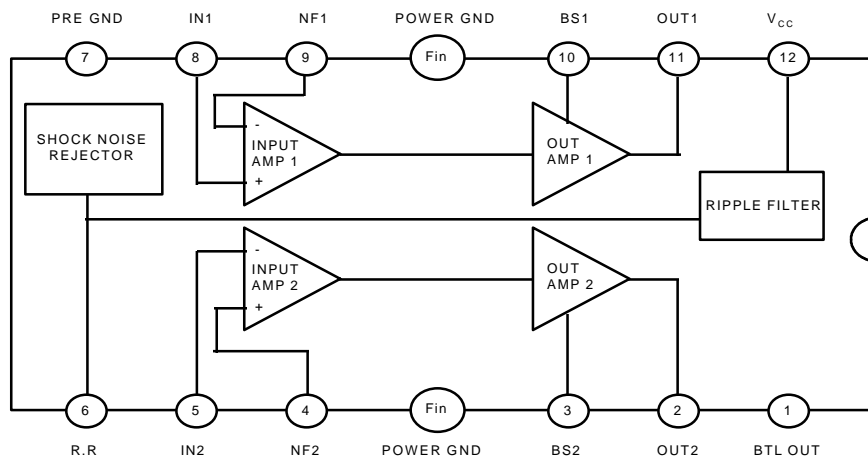


Fig. 1

ABSOLUTE MAXIMUM RATINGS

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 soldering on the PCB

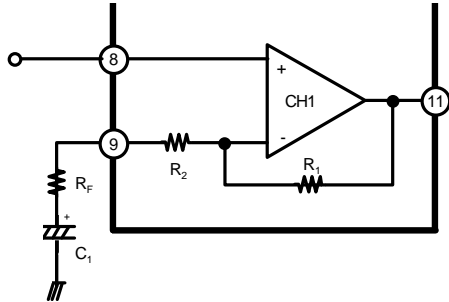
ELECTRICAL CHARACTERISTICS

($T_a = 25^\circ\text{C}$, $V_{CC} = 9\text{V}$, $f = 1\text{KHz}$, $R_G = 600\Omega$, 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	$V_I = -45\text{dBm}$	43	45	47	dB
		Bridge		49	51	53	dB
Channel Balance	CB	Stereo	-1	0	+1	dB	
Output Power	P_O	Stereo	$R_L=4\Omega$, THD = 10%,	1.7	2.3		W
			$R_L=8\Omega$, THD = 10%,		1.3		W
		Bridge	$R_L=8\Omega$, THD = 10%,		4.7		W
Total Harmonic Distortion	THD	Stereo	$P_O=250\text{mW}$, $R_L = 4\Omega$		0.3	1.5	%
		Bridge				0.5	
Input Resistance	R_I		21	30		$K\Omega$	
Ripple Rejection Ratio	RR	Stereo, $R_G=0\Omega$, $V_I=150\text{mW}$ $f=100\text{Hz}$	40	46		dB	
Output Noise Voltage	V_{NO}	Stereo, $R_G=0\Omega$		0.3	1.0	mW	
		Stereo, $R_G=10K\Omega$		0.5	2.0	mV	
Cross Talk	CT	Stereo, $R_G=10K\Omega$, $V_O=0\text{dBm}$	40	55		dB	

APPLICATION INFORMATION

1. Stereo application



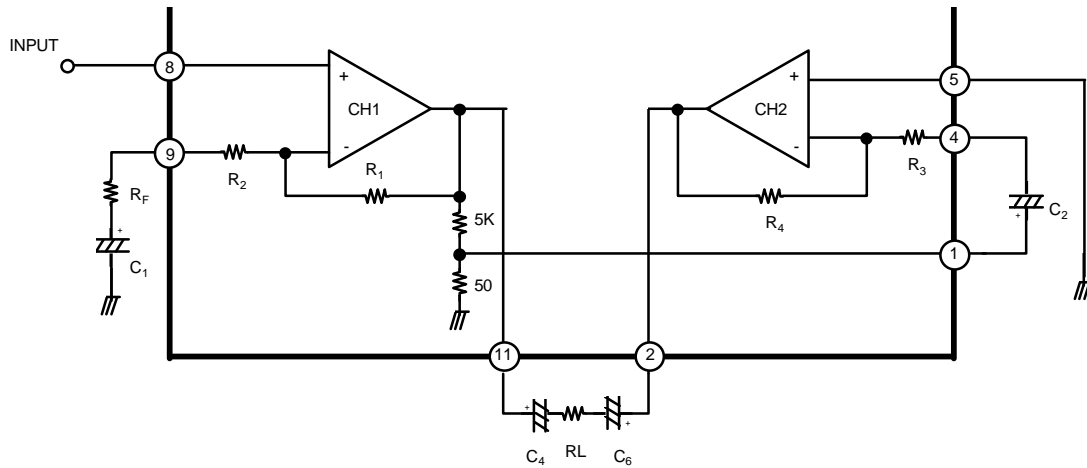
i) Fixed voltage gain
(Pin 9 connected to GND directly)

$$G_V = 20 \log \left(\frac{R_1}{R_2} \right)$$

ii) Variable voltage gain
(Rf and C₁ connected with pin 9)

$$G_V = 20 \log \left(\frac{R_1}{R_2 + R_F} \right)$$

2. Bridge application



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

$$G_V = 20 \log \left(\frac{R_1}{R_2} \right)$$

ii) Variable voltage gain R_F and C₁ connected with pin 9)

$$G_V = 20 \log \left(\frac{R_1}{R_2 + R_F} \right)$$

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APPLICATION CIRCUIT

1. Stereo Amplifier

2. Bridge Amplifier

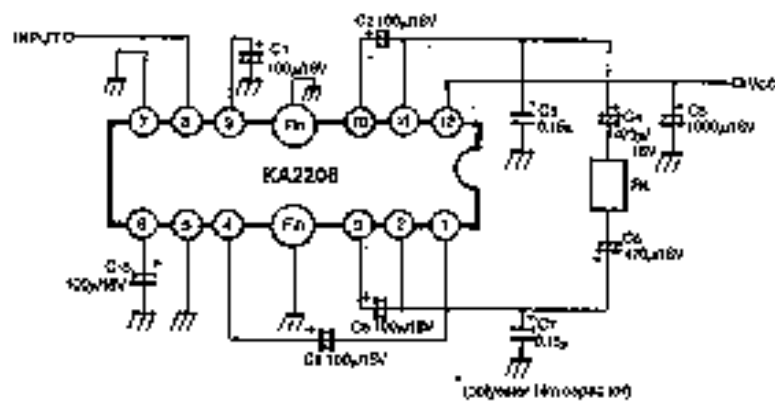
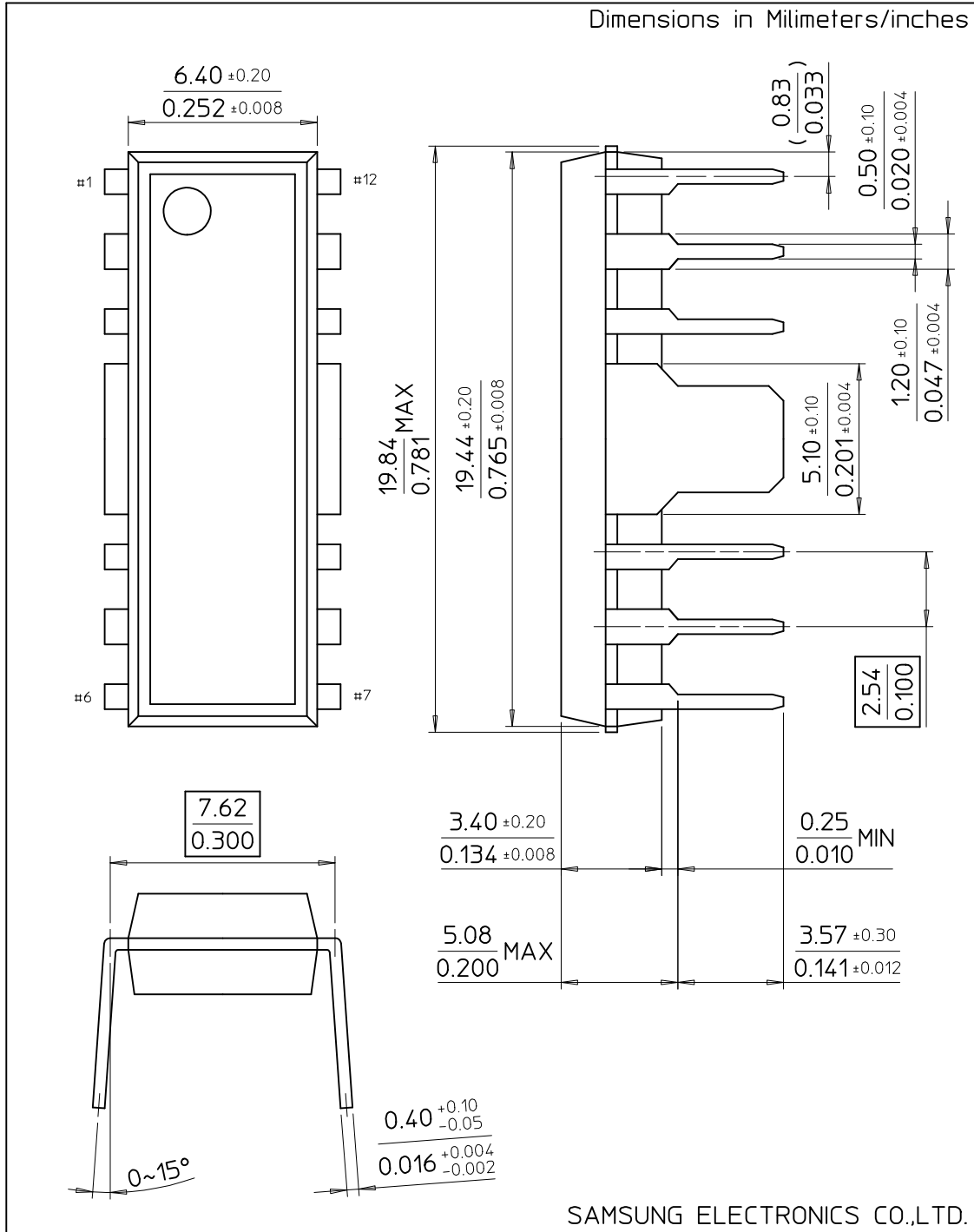


Fig. 3

12-DIPH-300

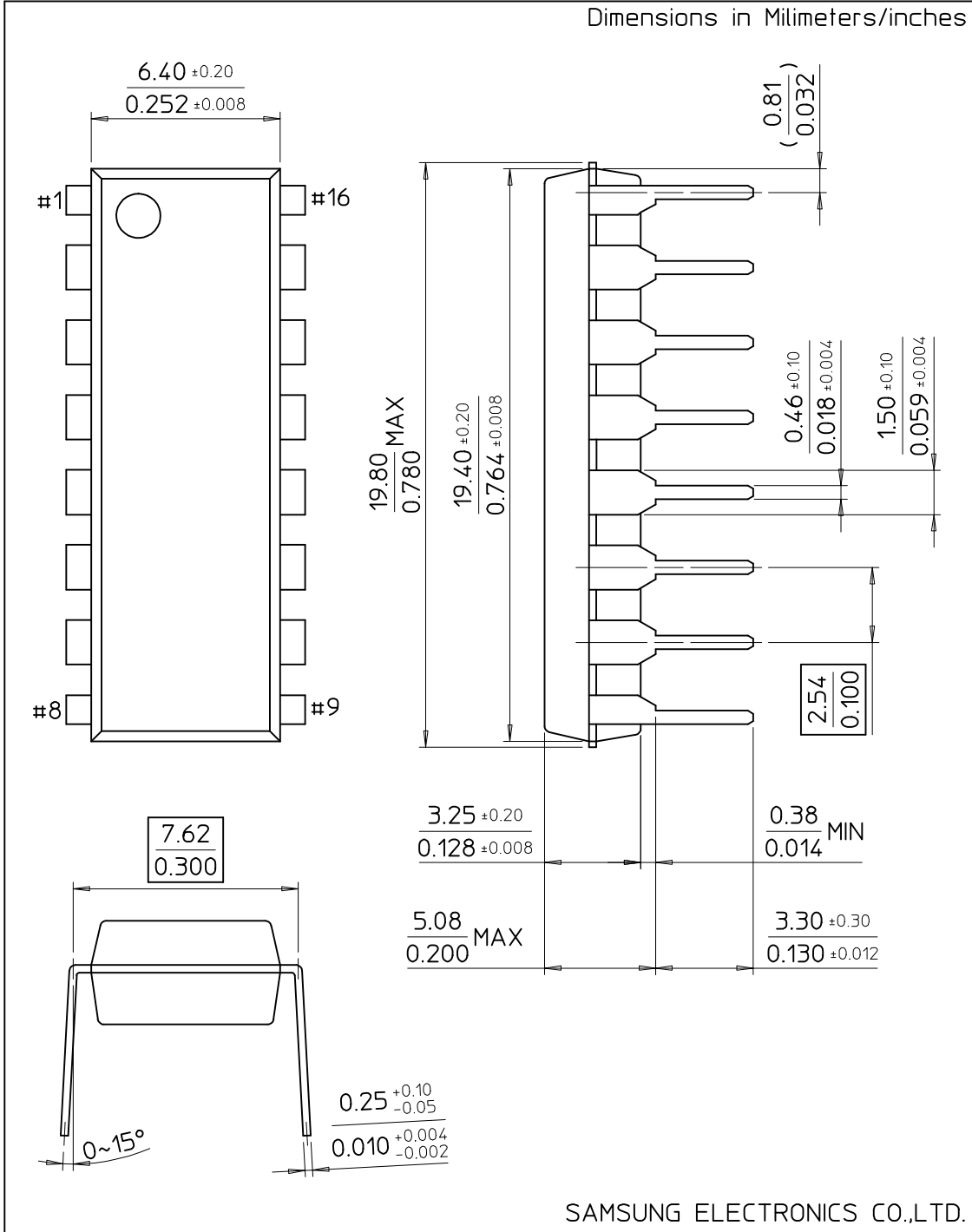
Dimensions in Millimeters/inches



SAMSUNG ELECTRONICS CO.,LTD.

16-DIP-300A

Dimensions in Millimeters/inches



SAMSUNG ELECTRONICS CO.,LTD.