

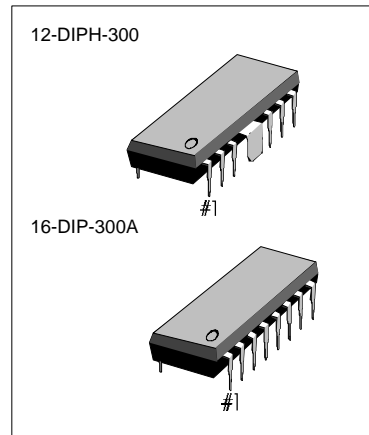
# KA2206B

# 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

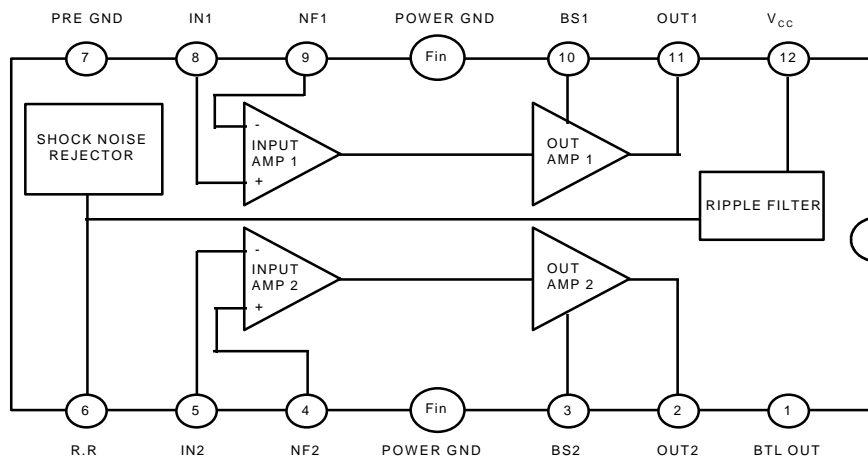


Fig. 1

## 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

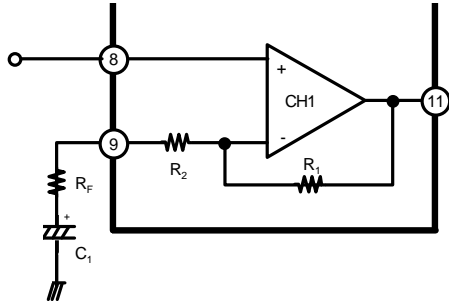
## ELECTRICAL CHARACTERISTICS

( $T_a = 25^\circ\text{C}$ ,  $V_{CC} = 9\text{V}$ ,  $f = 1\text{KHz}$ ,  $R_G = 600\Omega$ , 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		$\text{K}\Omega$	
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, $R_G = 10\text{K}\Omega$		0.5	2.0	mV	
Cross Talk	CT	Stereo, $R_G = 10\text{K}\Omega$ , $V_O = 0\text{dBm}$	40	55		dB	

APPLICATION INFORMATION

1. Stereo application



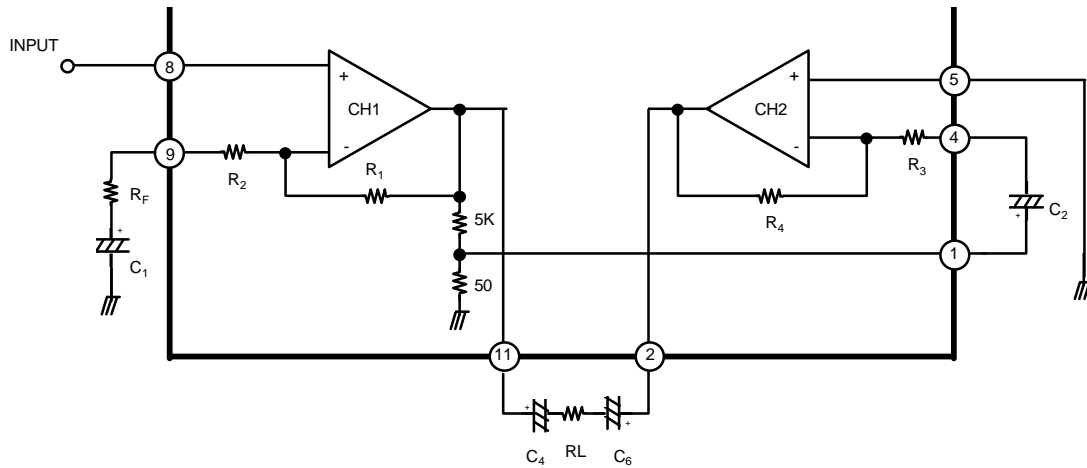
i) Fixed voltage gain  
(Pin 9 connected to GND directly)

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

ii) Variable voltage gain  
(Rf and C<sub>1</sub> 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<sub>F</sub> and C<sub>1</sub> connected with pin 9)

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

APPLICATION CIRCUIT

1. Stereo Amplifier

2. Bridge Amplifier

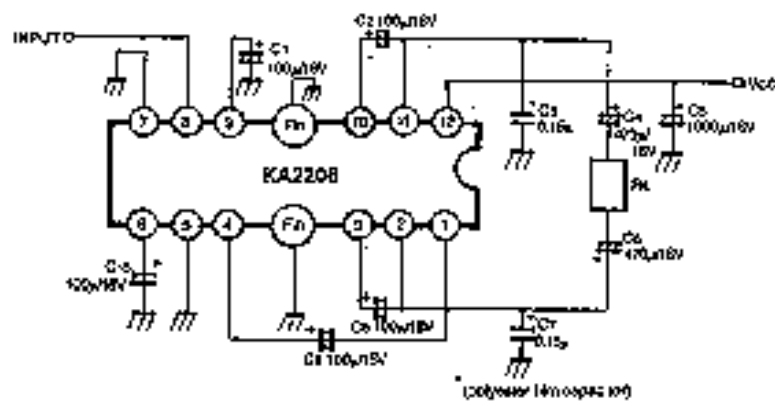
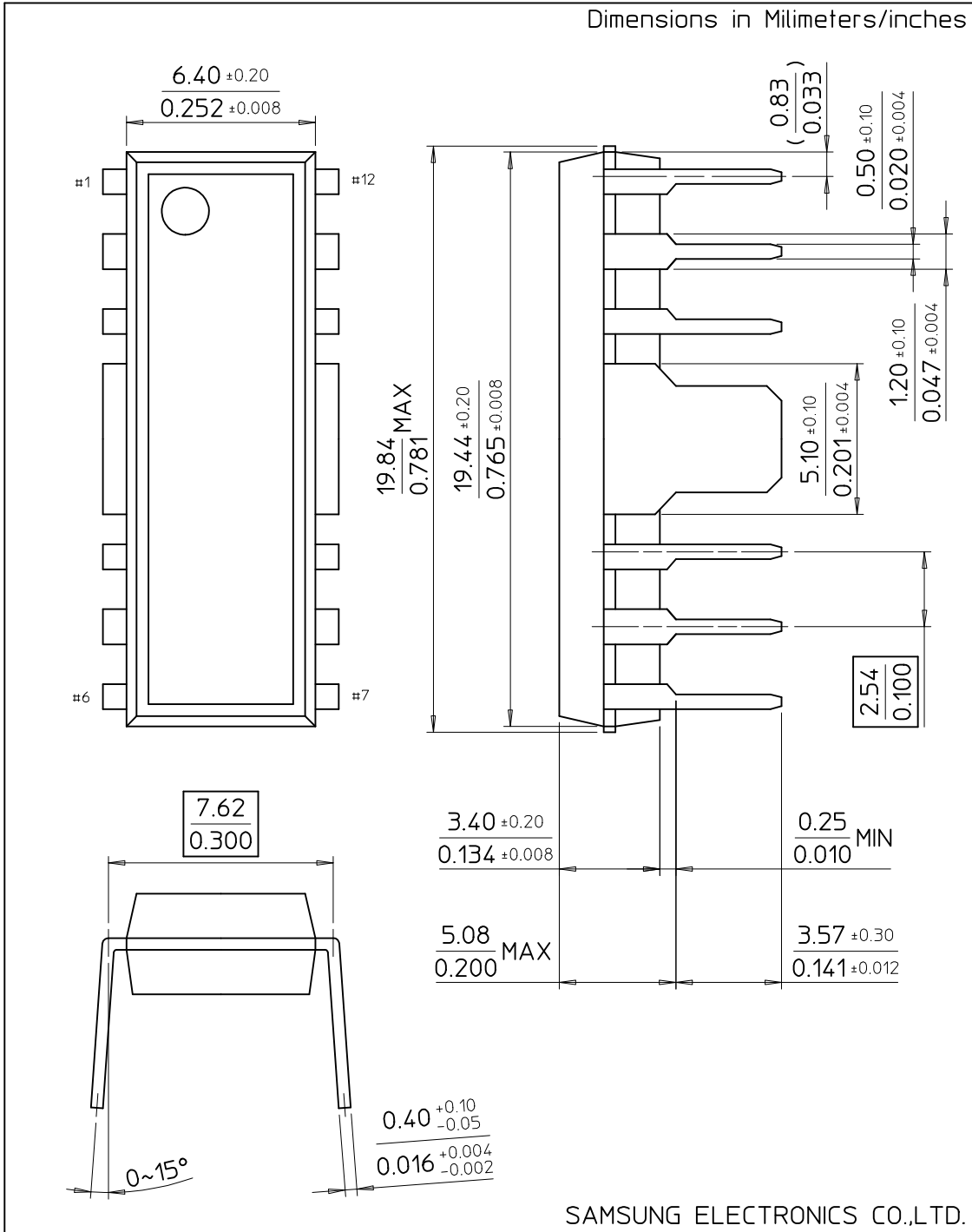


Fig. 3

# 12-DIPH-300

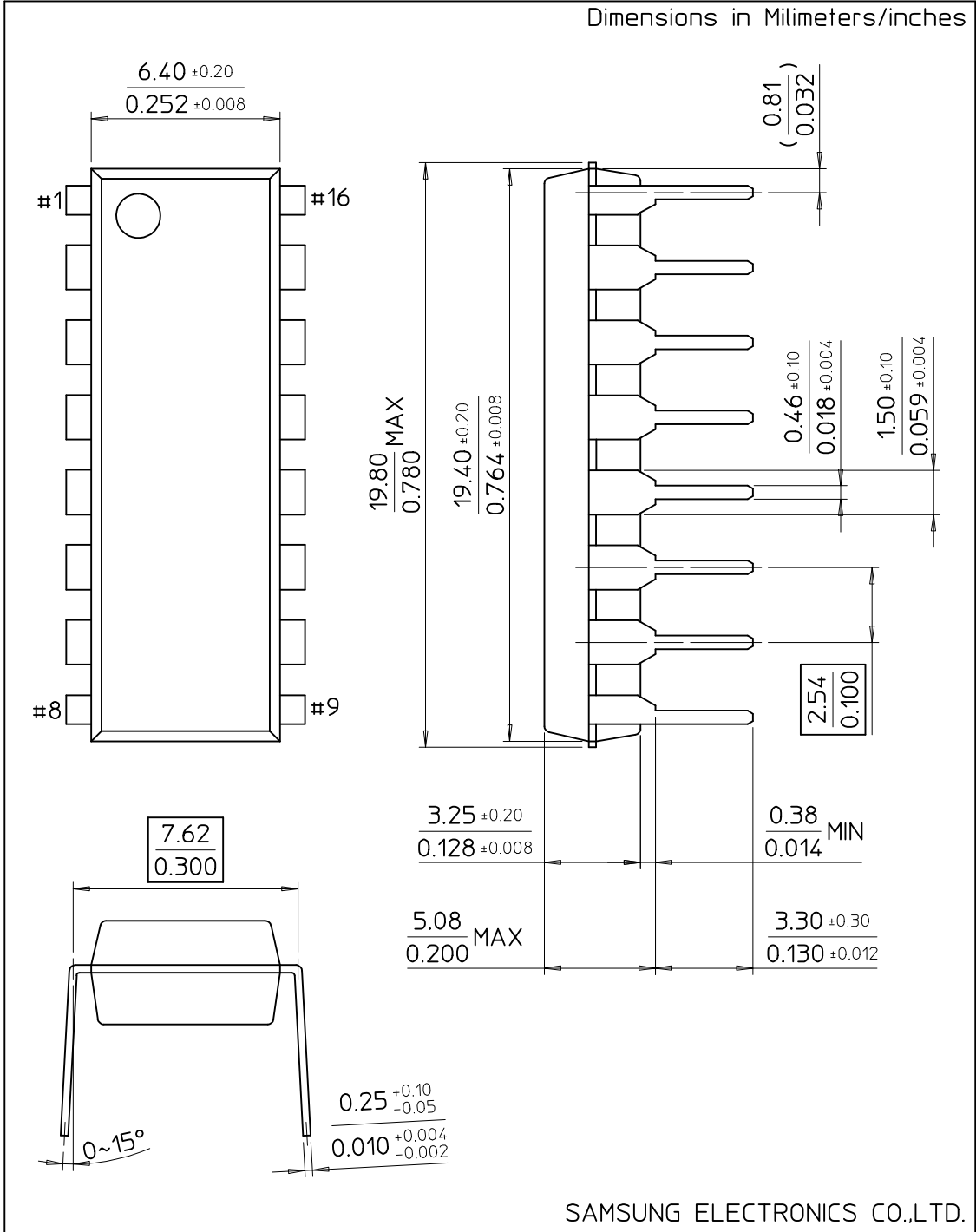
Dimensions in Millimeters/inches



SAMSUNG ELECTRONICS CO.,LTD.

# 16-DIP-300A

Dimensions in Millimeters/inches



SAMSUNG ELECTRONICS CO.,LTD.