

KA2223

5BAND GRAPHIC EQ AMP

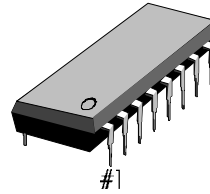
INTRODUCTION

The KA2223 is a monolithic integrated Circuit consisting of an operational amplifier with five resonant Circuits and a active filter, and it is suitable for radio-cassette tape recorder, car stereo or music center audio systems.

FEATURES

- Tone control with independent adjustment of each band through an external capacitor.
- Gain control through an external variable resistor.
- Increasing the bands by adding resonant circuit or using two KA2223 in series.
- Low noise ($V_{NO} = 7\mu V$: Typ. Flat).
- Low distortion (THD = 0.02% Typ. $f = 1\text{KHz}$ Flat).
- Large input allowance ($V_I = 2.3V$: Typ, $V_{CC} = 9V$, $f = 1\text{KHz}$ Flat).
- Operating Supply voltage range: $V_{CC} = 5V \sim 13V$

16-DIP-300A



ORDERING INFORMATION

Device	Package	Operating Temperature
KA2223	16-DIP-300A	-20°C ~ +70°C

BLOCK DIAGRAM

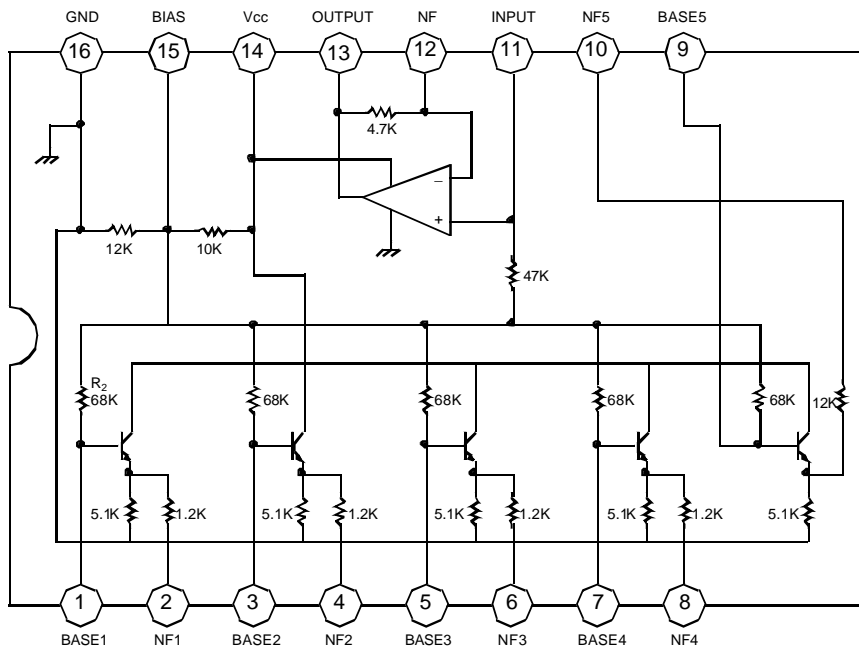


Fig. 1

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	20	V
Power Dissipation	P_D	700	mW
Operating Temperature	T_{OPR}	-20 ~ +70	°C
Storage Temperature	T_{STG}	-55 ~ + 125	°C

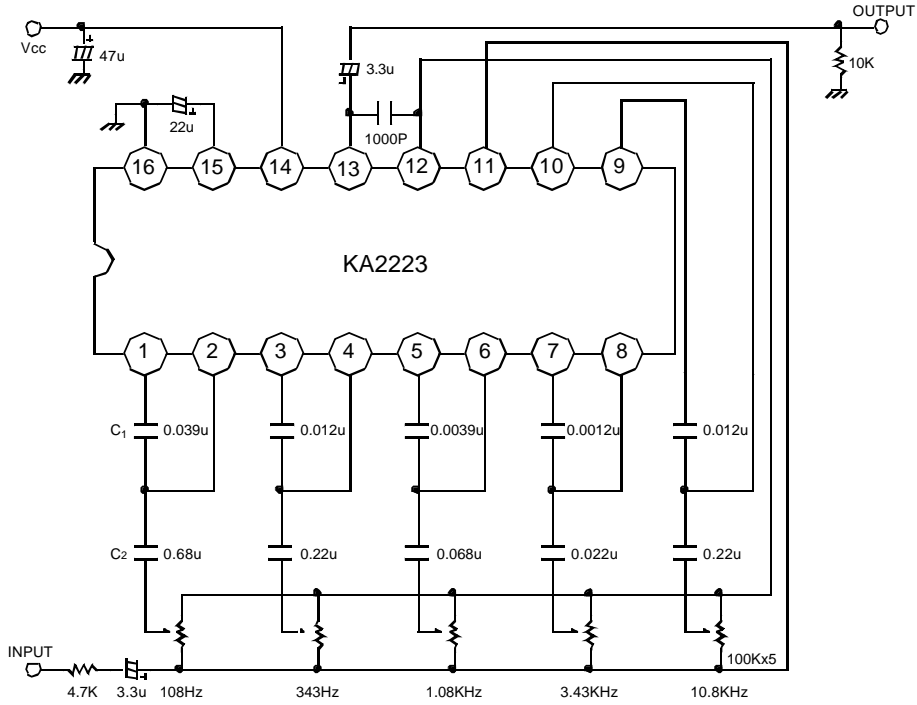
ELECTRICAL CHARACTERISTICS(Ta = 25°C, V_{CC} = 9V unless otherwise specified)

Characteristic	Symbol	Test		Min	Typ	Max	Unit	
		f(Hz)	Conditions					
Quiescent circuit current	I_{CCQ}		$V_I = 0$	3.0	5.2	8.0	mA	
Voltage Gain	Flat	G_V (Flat)	1K	$V_I = -10dBm$	-3.8	-0.8	2.2	dB
	Boost	G_V (Boost)	108	$V_I = -10dBm$	8	10.5	12	dB
			343					
			1.08K					
			3.43K					
			10.8K					
	Cut	G_V (Cut)	108	$V_I = -10dBm$	-12	-10.5	-8	dB
			343					
			1.08K					
			3.43K					
			10.8K					
	Total Harmonic distortion	THD	1K	$V_I = 1V$		0.02	0.1	%
Output Noise Voltage	V_{NO}	Flat, Input Short BW(-3dB) = 10Hz ~ 30KHz			7.0	30	μV	

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TEST CIRCUIT



$$\text{Resonant frequency } f_0 = \frac{1}{2\pi \sqrt{R_1 R_2 R_1 R_2}}$$

(R₁ = 1.2K, R₂ = 68K on-chip resistor)

Fig. 2

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APPLICATION CIRCUIT

1. 7 BAND

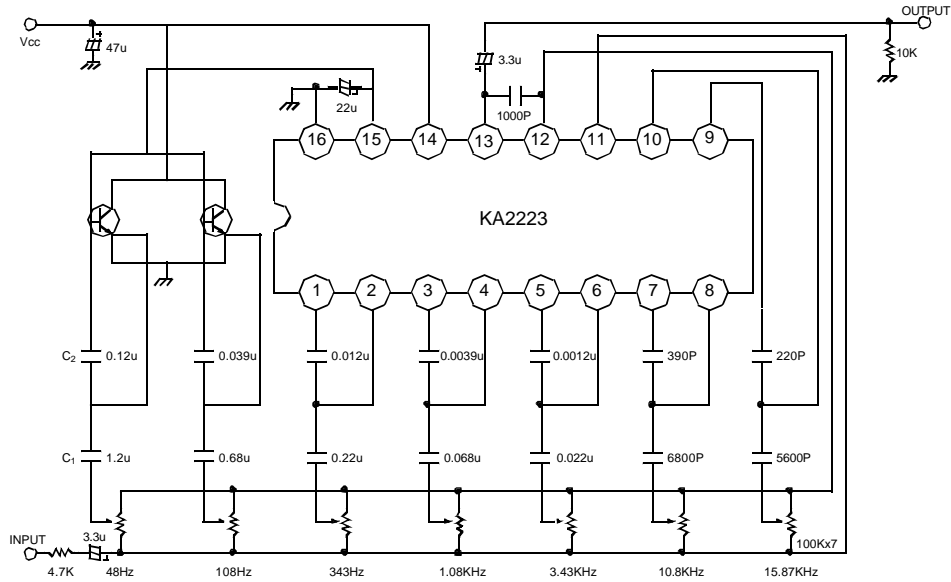


Fig. 3

2. 10 BAND

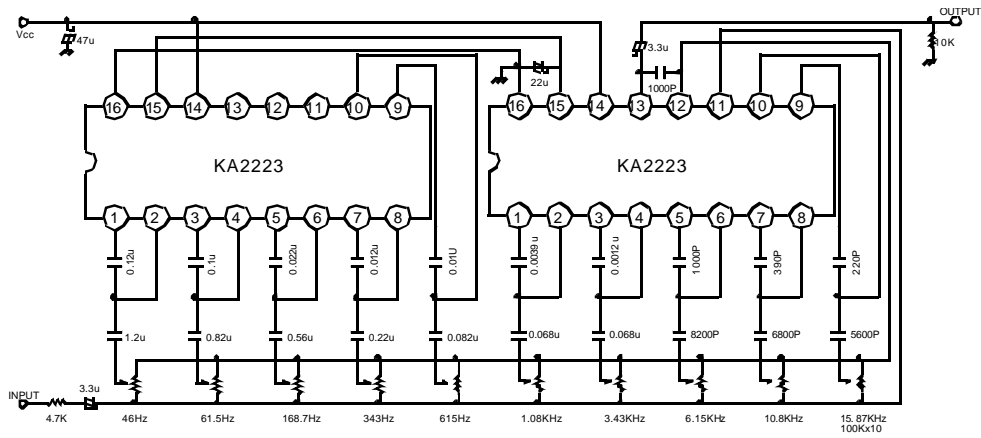
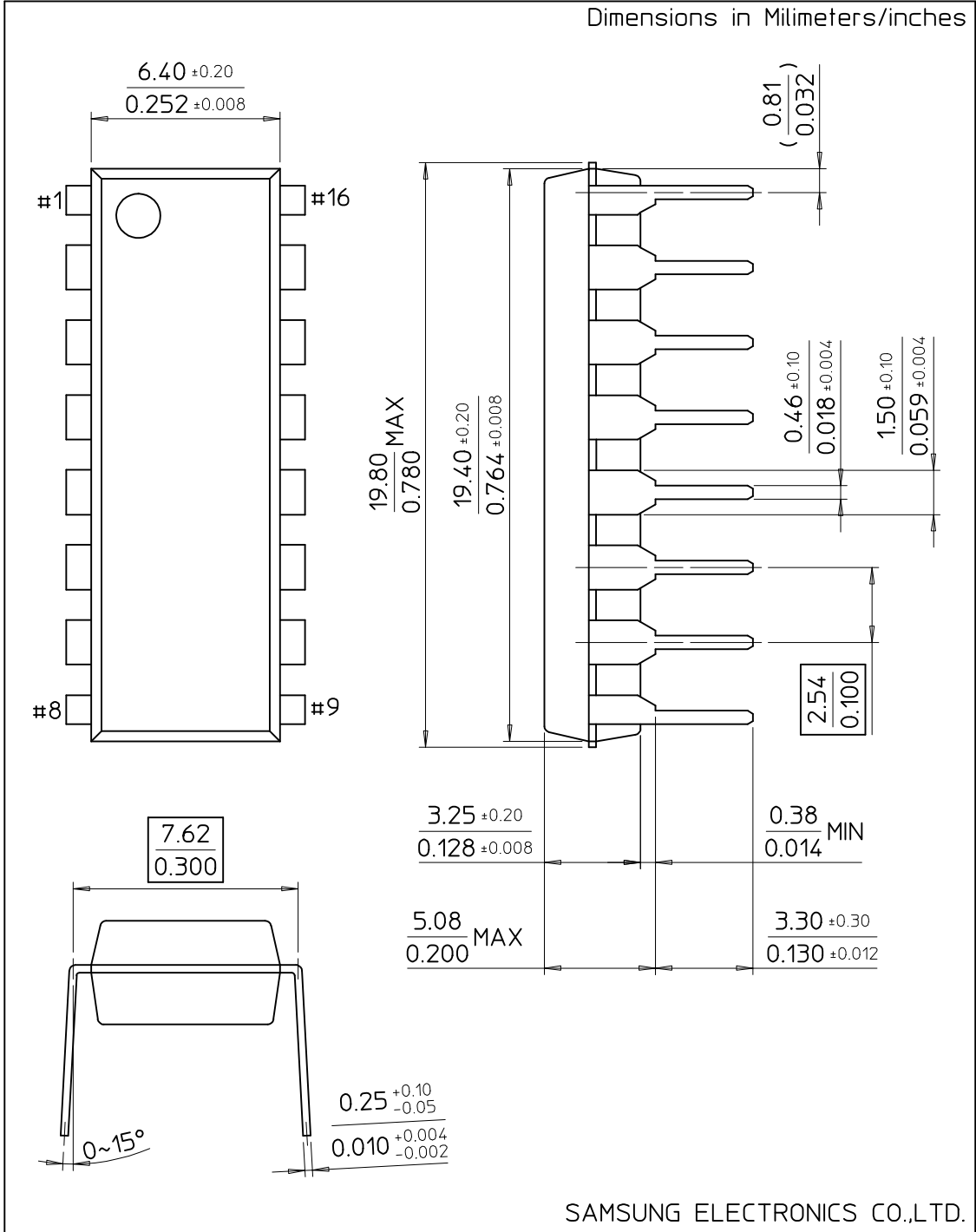


Fig. 4

16-DIP-300A

Dimensions in Millimeters/inches



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