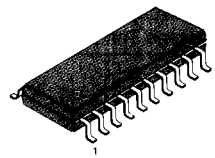
3-BAND DUAL GRAPHIC EQUALIZER AMPLIFIER

The KA22232 is a monolithic integrated circuit consisting of an operational amplifier and three resonant circuits with an active filter.
It is suitable for 3V headphone stereos and mini radio cassette tape recorders.

20 SOP



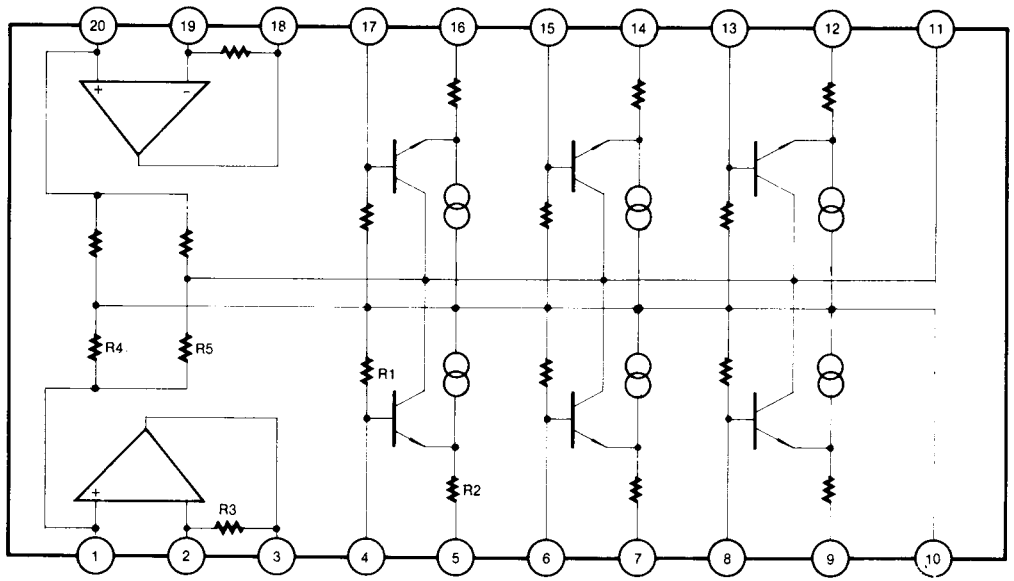
FEATURES

- **Tone control with independent adjustment of each band through an external capacitor**
- **Gain control through an external variable resistor (Gain = ± 9dB)**
- **Low noise (V_{NO} = 4μV, Typ at Flat)**
- **Low distortion (THD = 0.04% Typ. at f = 1KHz, Flat)**
- **Low current dissipation (I_{CC} = 4mA Typ at Vi = 0)**
- **Operating supply voltage range: V_{CC} = 1.6V ~ 6V**

ORDERING INFORMATION

Device	Package	Operating Temperature
KA22232D	20 SOP	− 20 ~ + 70°C

BLOCK DIAGRAM



Note : R1 = 68K R2 = 1.2K R3 = 4.7K R4 = 13.5K R5 = 13K

Fig. 1

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

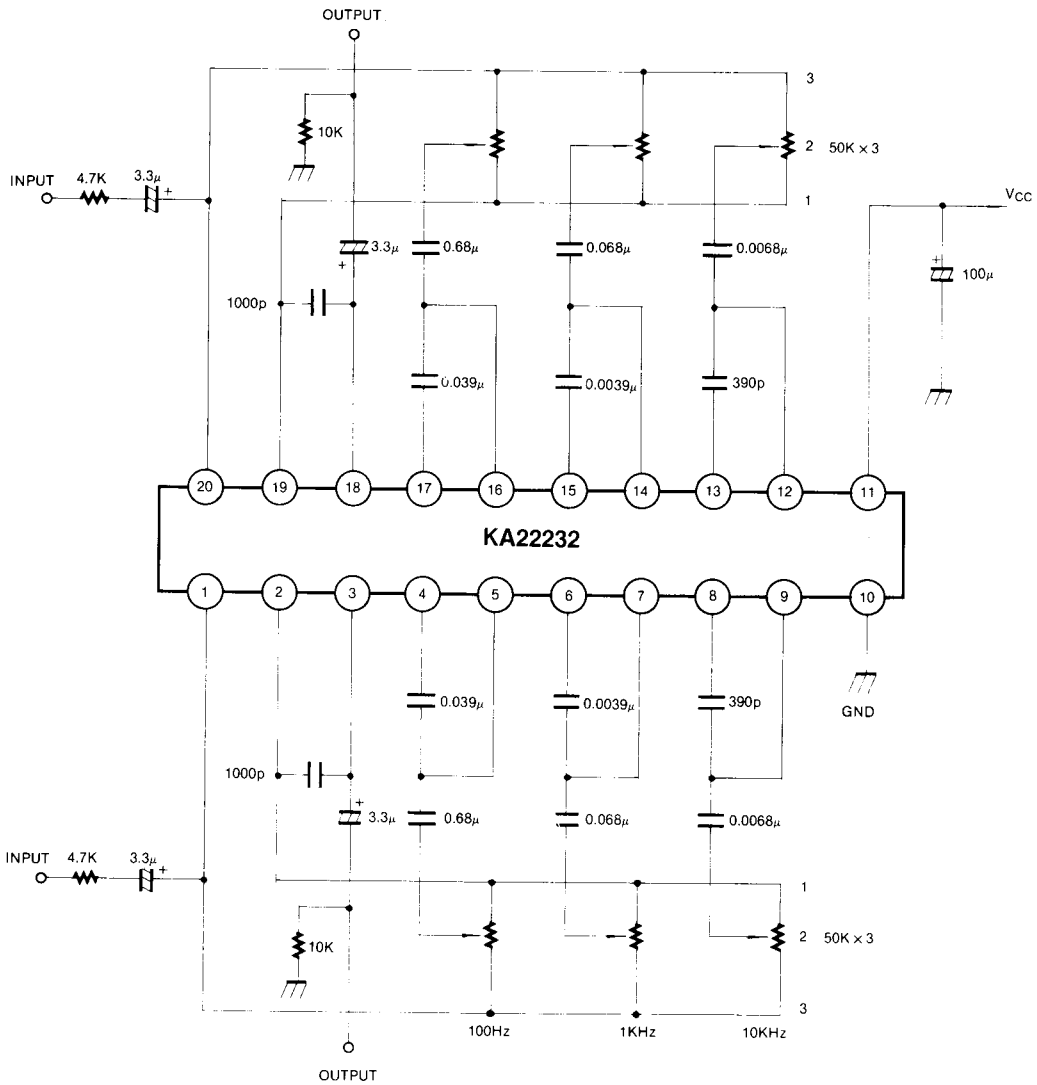
Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	8	V
Power Dissipation	P_d	300	mW
Operating Temperature	T_{opr}	−20 ~ +70	°C
Storage Temperature	T_{stg}	−40 ~ +125	°C

ELECTRICAL CHARACTERISTICS

(Ta = 25°C, V_{CC} = 3V, f = 1KHz, V_i = 100mV, R_L = 10KΩ, VR = Flat, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Circuit Current	I_{CC}	V_i = 0	2	4	8	mA
Maximum Input Voltage	V_i (max)	THD = 1%	500	800		mV
Total Harmonic Distortion	THD			0.04	0.1	%
Voltage Gain	A_V		−4	−1	2	dB
Control Range	CR		±7	±9	±11	dB
Cross Talk	CT	R_g = 0	40	50		dB
Channel Balance	CB		−1	0	1	dB
Output Noise Voltage	V_{NO}	BW (−3dB) = 20Hz ~ 20KHz		4	20	μV

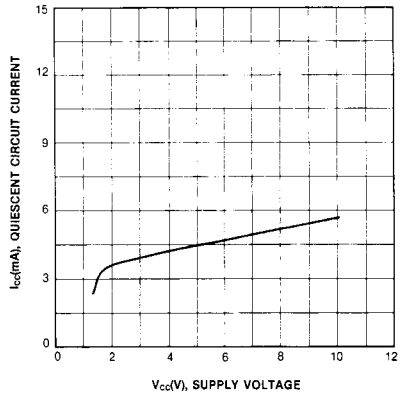
TYPICAL APPLICATION CIRCUIT



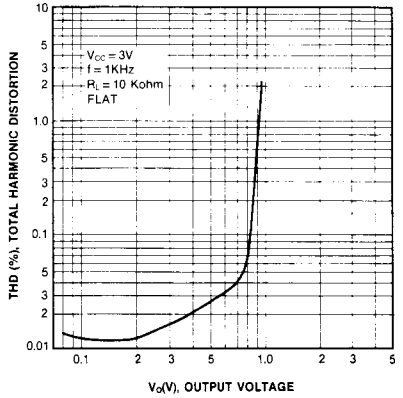
Note. Point 1: Boost,
Point 2: Flat,
Point 3: Cut

Fig. 2

QUIESCENT CIRCUIT CURRENT-SUPPLY VOLTAGE



TOTAL HARMONIC DISTORTION-OUTPUT VOLTAGE



FREQUENCY RESPONSE