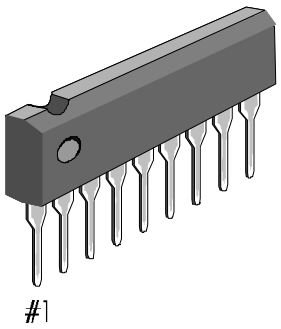
INTRODUCTION

The KA22241B is a monolithic integrated clrcuit consisting of dual equalizer amplifier with ALC, and it is suitable for stereo radio cassette tape recorder.

9-SIP



FEATURES

- Dual equalizer amplifier with built-in ALC circuit
- Low noise; V_{NI}=1.0μ(Typ)
- High open loop voltage gain; 80 dB (Typ)
- Wide operating supply voltage range; V_{CC} = 4.5V ~ 14V
- Good ALC response balance between channels
- Not necessary the input coupling capacitor
- Not necessary diode or transistor for ALC
- Built in power supply muting circuit
- Minimum number of external parts required

ORDERING INFORMATION

Device	Package	Operating Temperature
KA22241B	9-SIP	-20°C ~ +75°C

BLOCK DIAGRAM

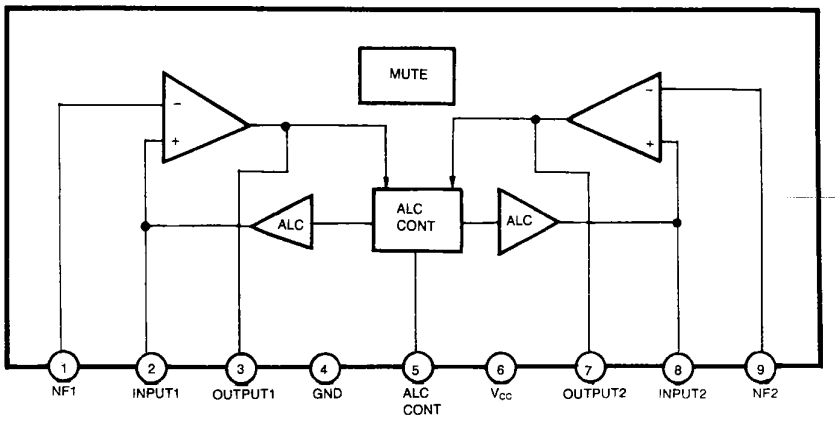


Fig. 1

ABSOLUTE MAXIMUM RATINGS

¡Ú Derated avobe Ta = 2°C in the propotion of 5.5mW/°C

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	16	V
Power Dissipation	P_D	¡Ú550	mW
Operating Temperature	T_{OPR}	-20 ~ +75	°C
Storage Temperature	T_{STG}	-20 ~ +125	°C

ELECTRICAL CHARACTERISTICS

(Ta = 25°C, V_{CC} = 7V, f = 1KHz, unless otherwise specified)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Circuit Current	I_{CCQ}	V_I = 0	1.5	3.5	4.5	mA
Open Loop Voltage Gain	G_{VO}	V_O = 0.3V	70	80		dB
Closed Loop Voltage Gain	G_{VC}	V_O = 0.3V	45	48	50	dB
Output Voltage	V_O	THD = 1%	0.6	1.2		V
Total Harmonic Distortion	THD	V_O = 0.3V		0.1	0.3	%
Equivalent Input Noise Voltage	V_{NI}	R_G = 2.2KΩ, BW (-3dB) = 20Hz ~ 20KHz		1.0	2.0	μV
Input Resistance	R_I		15	25	45	KΩ
ALC Range	ΔV_{ALC}	R_G = 3.9K, THD = 10%	40	45		dB
ALC Balance	CB_{ALC}	V_I = 1mV		0	2.5	dB

TEST CIRCUIT

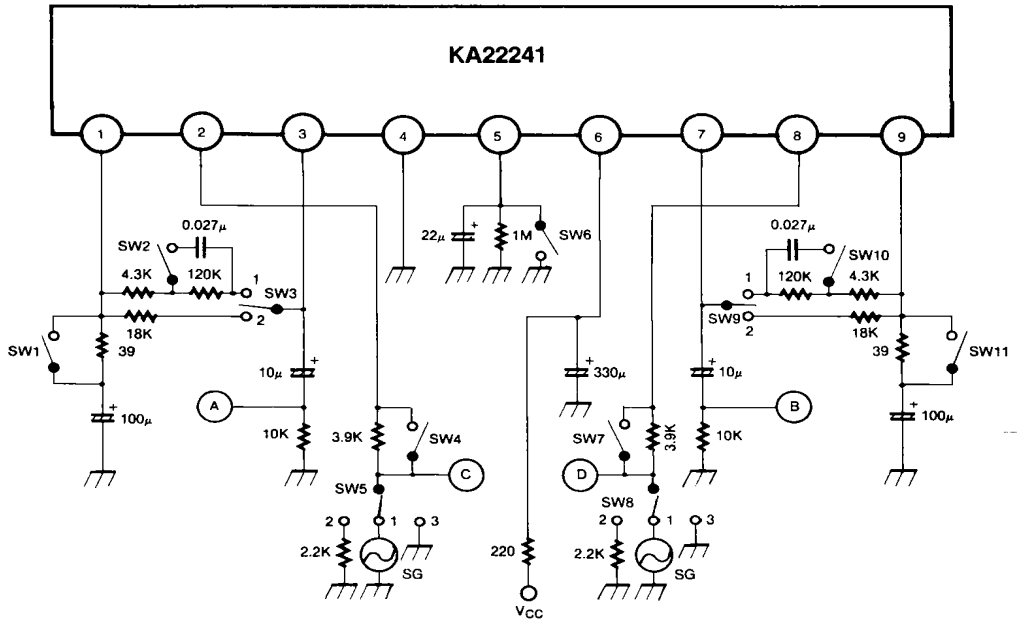


Fig. 2

TEST METHOD

Symbol		S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11
I_{CCQ}		ON	OFF	1	ON	3	ON	ON	3	1	OFF	ON
G_{VO}		ON	OFF	1	ON	1	ON	ON	3	1	OFF	ON
G_{VC}	CH -1	OFF	ON	1	ON	1	ON	ON	3	1	OFF	ON
THD	CH -1	OFF	ON	1	ON	1	ON	ON	3	1	OFF	ON
V_O	CH -1	OFF	ON	1	ON	1	ON	ON	3	1	OFF	ON
V_{NI}	CH -1	OFF	ON	1	ON	2	ON	ON	3	1	OFF	ON
	CH -2	ON	OFF	1	ON	3	ON	ON	2	1	ON	OFF
ΔV_{ALC}	CH -1	OFF	OFF	2	OFF	1	OFF	ON	3	1	OFF	ON
CB_{ALC}		OFF	OFF	2	OFF	1	OFF	OFF	1	2	OFF	OFF

APPLICATION CIRCUIT

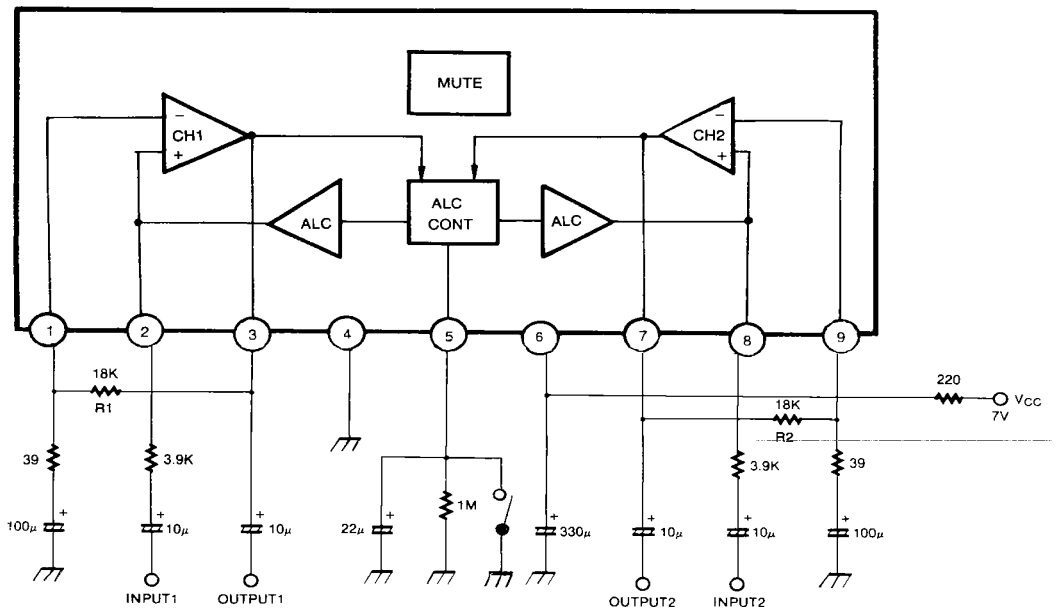
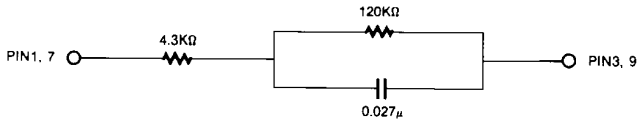


Fig. 3

NOTE
ON playback, connect the time constant circuit as follows below, instead of R1, R2 of Pins 1-3, 7-9, which are used in the NAB.



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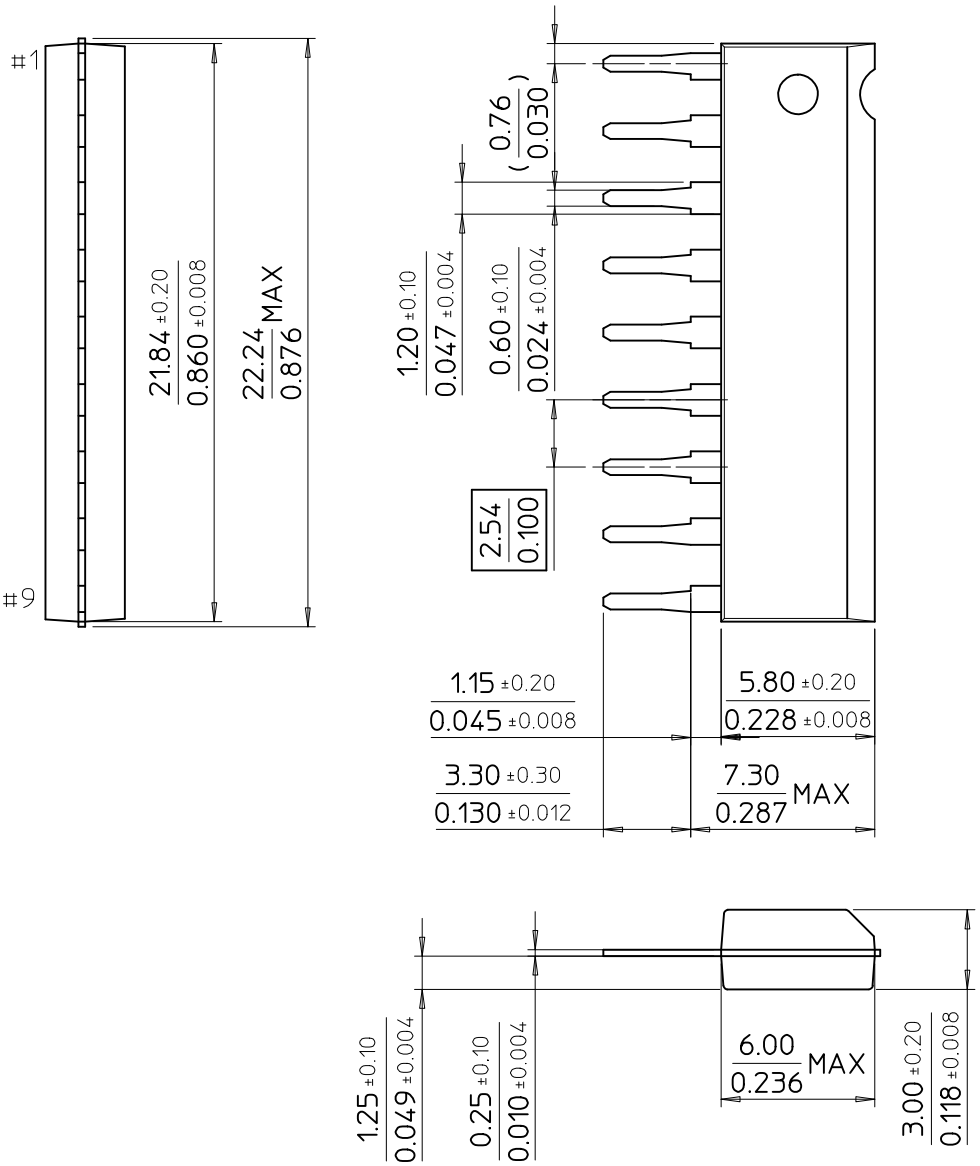
Dimensions in Milimeters/Inches



SAMSUNG ELECTRONICS CO.,LTD.