



KA22241

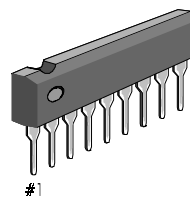
DUAL EQ AMP WITH ALC

INTRODUCTION

The KA22241 is a monolithic integrated circuit consisting of a dual equalizer amplifier with ALC, and it is suitable for stereo radio cassette-tape recorders.

FEATURES

- Dual equalizer amplifier with built-in ALC circuit Low noise; $V_{NI} = 1.0\mu$ (Typ)
- High open loop voltage gain: 80dB (Typ)
- Wide operating supply voltage range: $V_{CC} = 4.5V \sim 14V$
- Good ALC response balance between channels
- Input coupling capacitor unnecessary
- Diode or transistor for ALC unnecessary
- Minimum number of external parts required

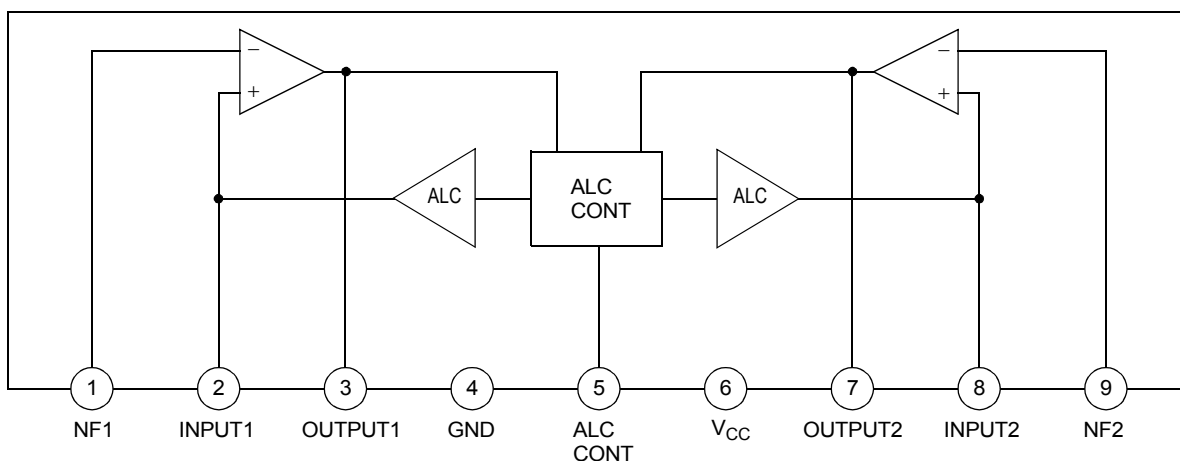


9-SIP

ORDERING INFORMATION

Device	Package	Operating Temperature
KA22241	9-SIP	-20°C ~ +75°C

BLOCK DIAGRAM



**KA22241****DUAL EQ AMP WITH ALC****ABSOLUTE MAXIMUM RATINGS (T_A = 25°C)**

Characteristic	Symbol	Value	Unit
Supply Voltage	V _{CC}	16	V
Power Dissipation	P _D	(NOTE) 550	mW
Operating Temperature	T _{OPR}	-20 ~ +75	°C
Storage Temperature	T _{STG}	-20 ~ +125	°C

NOTE: Derated above T_A = 25 °C in the propotion of 5.5 mW/°C

ELECTRICAL CHARACTERISTICS

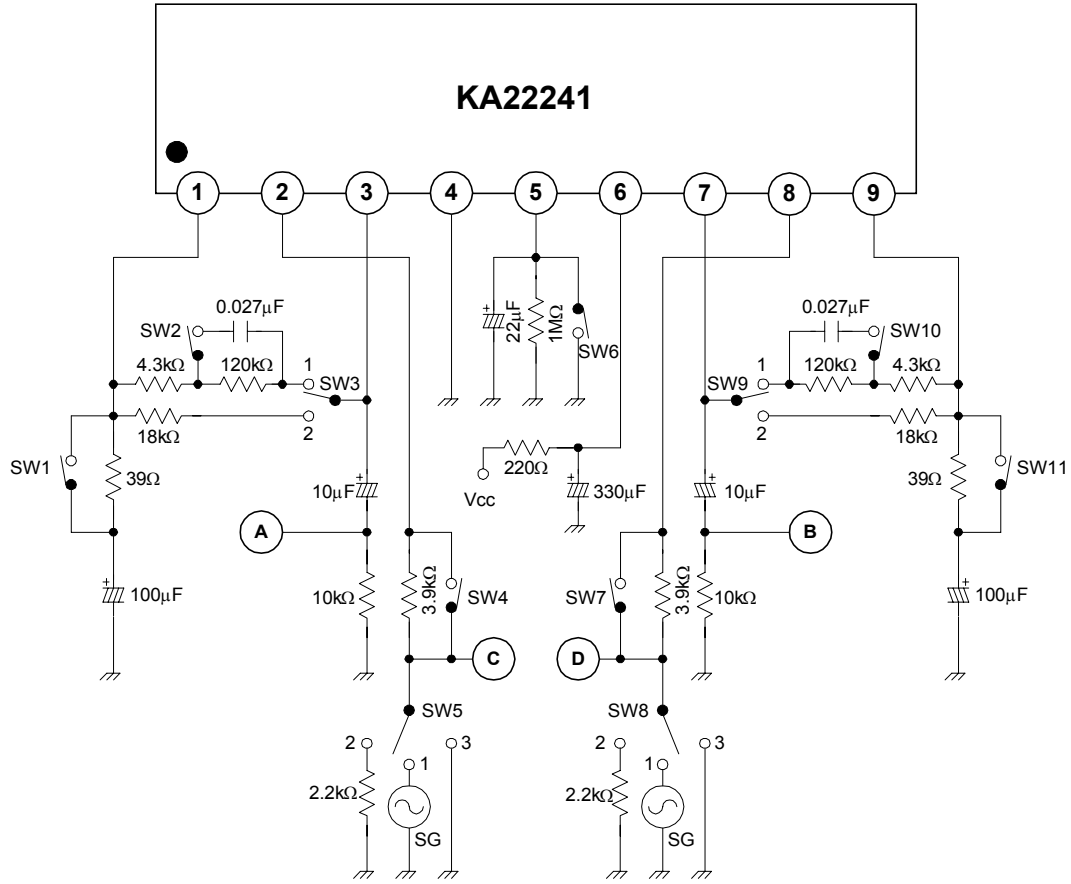
(T_a = 25°C, V_{CC} = 7V, f = 1kHz, unless otherwise specified)

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 = 3.9kΩ, THD = 10%	40	45	-	dB
ALC Balance	CB _{ALC}	V _I = 1mV	-	0	2.5	dB



KA22241 TEST CIRCUIT

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TEST METHOD

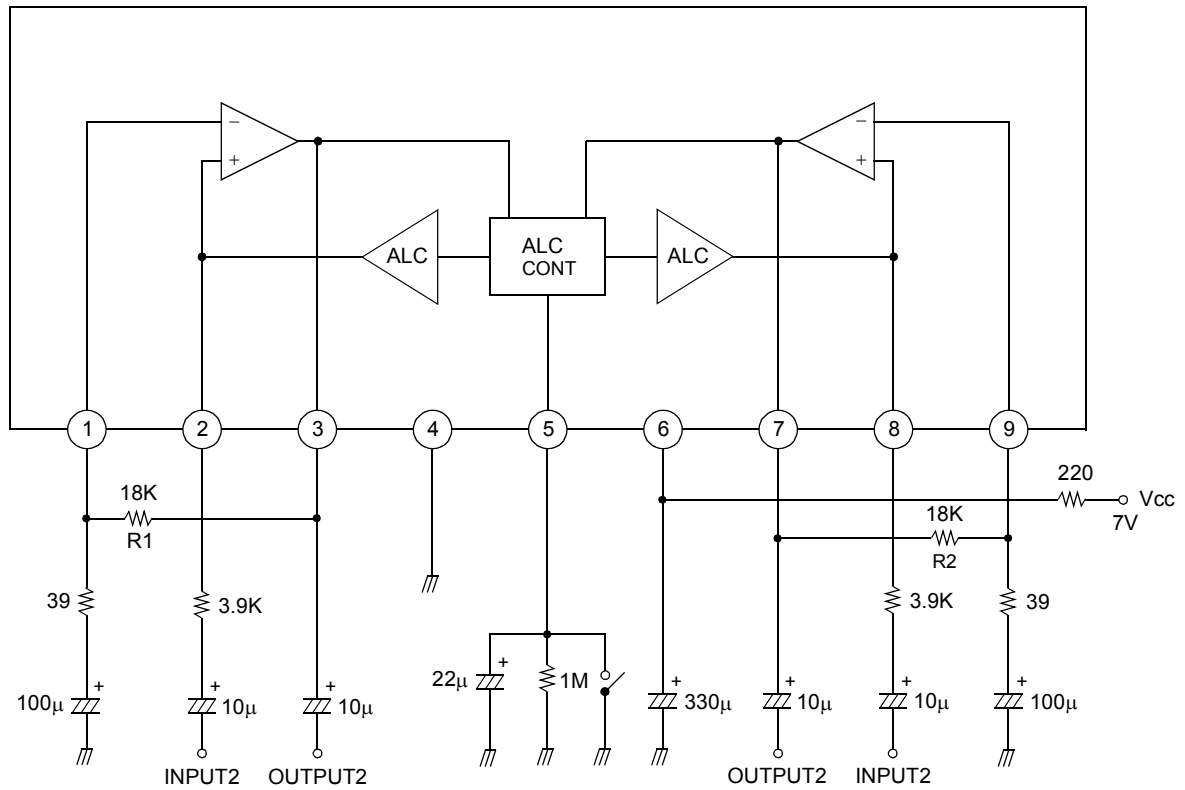
Symbol		S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11
I_{CCQ}		ON	OFF	1	ON	3	ON	ON	3	1	OFF	ON
G_{VO}		ON	OFF	1	ON	1	ON	ON	3	1	OFF	ON
G_{VC}	CH -1	OFF	ON	1	ON	1	ON	ON	3	1	OFF	ON
THD	CH -1	OFF	ON	1	ON	1	ON	ON	3	1	OFF	ON
V_O	CH -1	OFF	ON	1	ON	1	ON	ON	3	1	OFF	ON
V_{NI}	CH -1	OFF	ON	1	ON	2	ON	ON	3	1	OFF	ON
	CH -2	ON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



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APPLICATION CIRCUIT



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

