

UTC KA22241 LINEAR INTEGRATED CIRCUIT

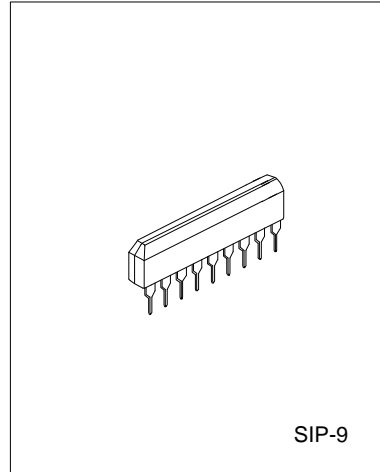
DUAL EQUALIZER AMPLIFIER WITH ALC

DESCRIPTION

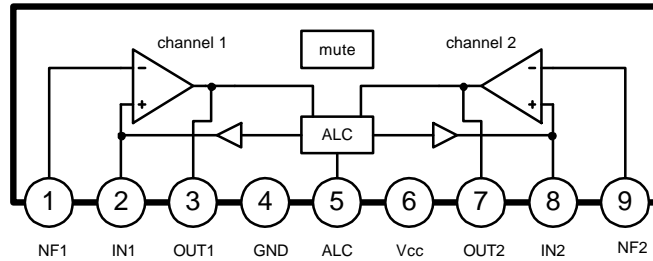
The UTC KA22241 is a monolithic integrated circuit, consisting of dual equalizer amplifier with ALC, and it is suitable for stereo radio cassette tape recorders.

FEATURES

- *Dual equalizer amplifier with built-in ALC circuit
- *Low noise $V_{NI}=1.0\mu V$ (Typical)
- *High open loop voltage gain: $G_v=80dB$ (Typical)
- *Good ALC response balance between channels
- *Not necessary the input coupling capacitor
- *Not necessary the diode or transistor for ALC
- *Built in power supply muting circuit
- *Minimum number of external parts required



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATING ($T_a=25^\circ C$)

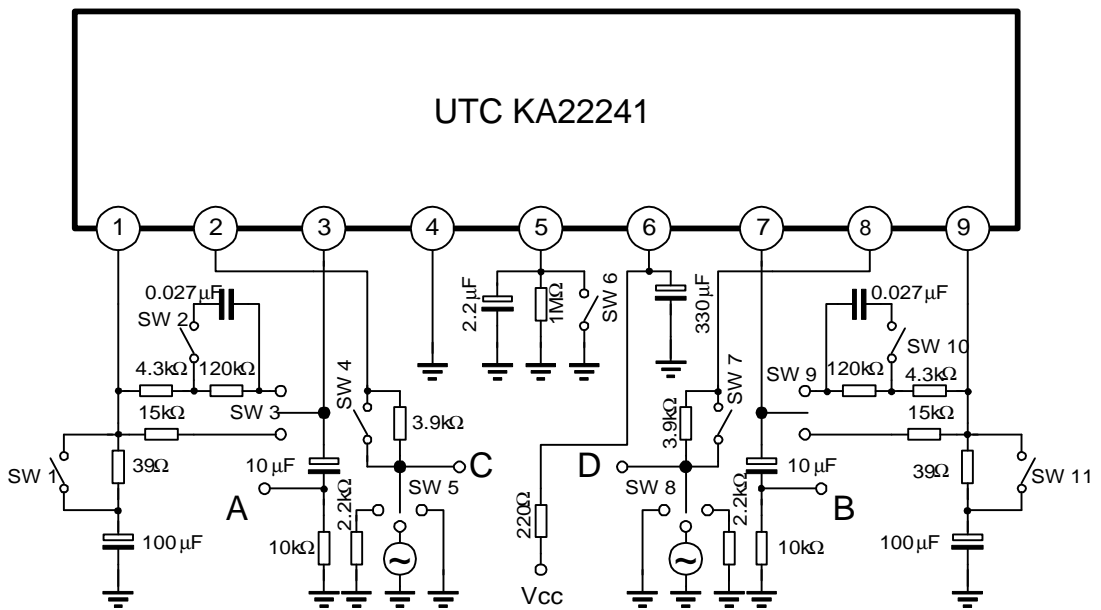
PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	VCC	16	V
Operating Temperature	TOPR	-20 to 75	$^\circ C$
Storage Temperature	TSTG	-20 to 125	$^\circ C$
Power Dissipation	PD	550	mW

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ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$, $V_{CC}=7\text{V}$, $f=1\text{KHZ}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Quiescent Circuit Current	ICCQ	$V_I=0$	1.5	3.5	4.5	mA
Open Loop Voltage Gain	GVO	$V_O=0.3\text{V}$	70	80		dB
Closed Loop Voltage Gain	GVC	$V_O=0.3\text{V}$	45	48	50	dB
Output Voltage	V_O	THD=1%	0.6	1.2		V
Total Harmonic Distortion	THD	$V_O=0.3\text{V}$		0.1	0.3	%
Input Noise Voltage	VNI	$R_O=2.2\text{K}\Omega$ $BW(-3\text{dB})=20\text{HZ} \sim 20\text{KHZ}$		1.0	2.0	μV
Input Resistance	RI		15	25	45	$\text{k}\Omega$
ALC Range	V_{ALC}	$R_O=3.9\text{K}\Omega$, THD=10%	40	45		dB
ALC Balance	CBALC	$V_I=1\text{mV}$		0	2.5	dB

TEST CIRCUIT

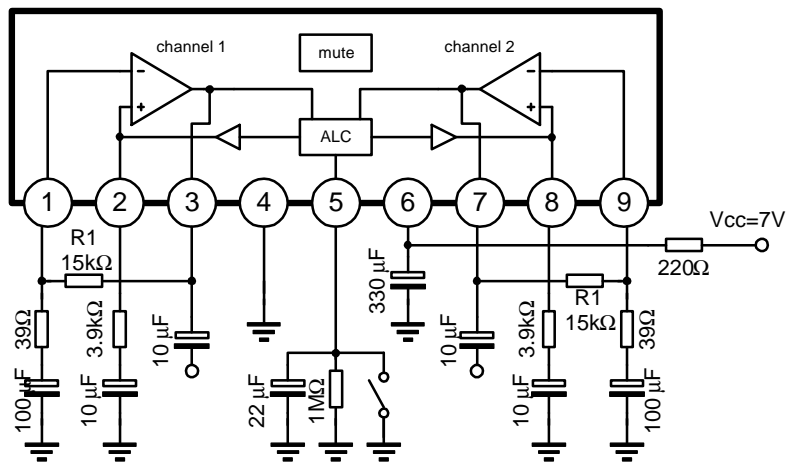


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TEST METHOD

SYMBOL	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	SW9	SW10	SW11
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}	OFF	ON	1	ON	1	ON	ON	3	1	OFF	ON
THD	OFF	ON	1	ON	1	ON	ON	3	1	OFF	ON
V _O	OFF	ON	1	ON	1	ON	ON	3	1	OFF	ON
V _{NI-1}	OFF	ON	1	ON	2	ON	ON	3	1	OFF	ON
V _{NI-2}	ON	OFF	1	ON	3	ON	ON	2	1	ON	OFF
V _{ALC}	OFF	OFF	2	OFF	1	OFF	ON	3	1	OFF	ON
CB _{ALC}	OFF	OFF	2	OFF	1	OFF	OFF	1	2	OFF	ON

APPLICATION CIRCUIT



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.

