



BA3308

LINEAR INTEGRATED CIRCUIT

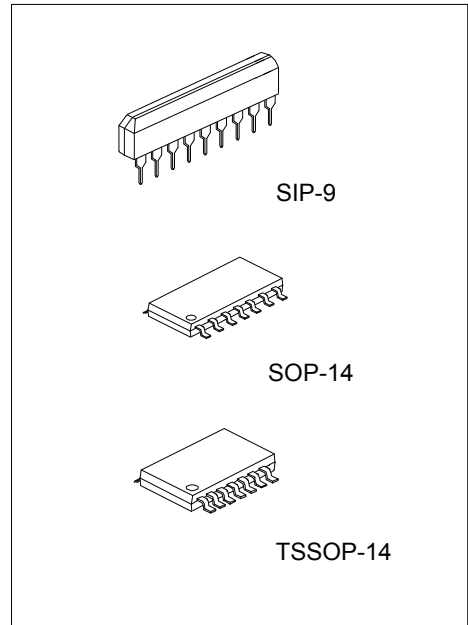
DUAL PREAMPLIFIER WITH ALC

DESCRIPTION

The UTC **BA3308** is designed to have dual preamplifier ICs with built – in ALC circuits for use in stereo amplification. The preamplifiers have high gain and low distortion. A built-in rectifier for ALC circuit implies good channel balance and large dynamic range can be constructed with addition of just an external time constant circuit.

FEATURES

- * Wide operating power supply voltage range ($V_{CC}=4.5V \sim 14V$)
- * Power-on mute circuit to avoid “pop” noise generation.
- * No input coupling capacitors are necessary
- * High gain ($G_{VO}=80dB$) and low noise ($V_{NIN}=1\mu Vrms$)
- * Low distortion (THD=0.1%)
- * Good ALC channel balance with built-in ALC rectifier diode
- * Adjustable ALC dynamic range by external input resistor.



ORDERING INFORMATION

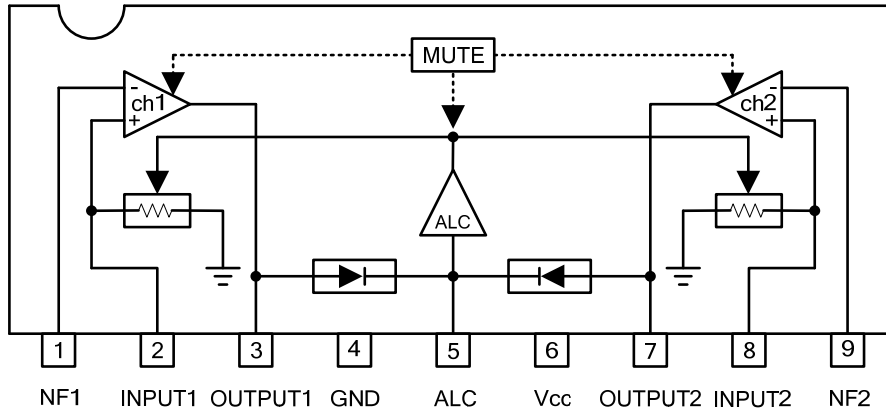
Ordering Number		Package	Packing
Lead Free	Halogen Free		
BA3308L-G09-T	BA3308G-G09-T	SIP-9	Tube
BA3308L-S14-R	BA3308G-S14-R	SOP-14	Tape Reel
BA3308L-P14-R	BA3308G-P14-R	TSSOP-14	Tape Reel

<p>BA3308G-G09-T</p>	<p>(1) T: Tube, R: Tape Reel (2) G09: SIP-9, S14: SOP-14, P14: TSSOP-14 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
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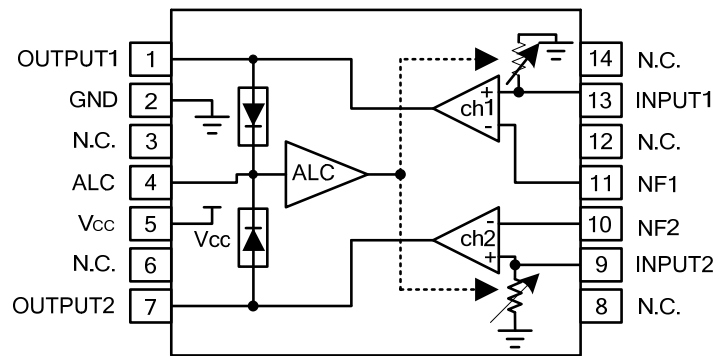
MARKING

SIP-9	SOP-14 / TSSOP-14

■ BLOCK DIAGRAM



SIP-9



SOP-14 / TSSOP-14

■ ABSOLUTE MAXIMUM RATING ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Power Supply Voltage		V_{CC}	16	V
Power Dissipation	SIP-9	P_D	950	mW
	SOP-14		450	mW
	TSSOP-14		350	mW
Derating above ($T_A = 25^\circ\text{C}$)	SIP-9		9.5	$^\circ\text{C}/\text{mW}$
	SOP-14		4.5	$^\circ\text{C}/\text{mW}$
	TSSOP-14		3.5	$^\circ\text{C}/\text{mW}$
Operating Temperature		T_{OPR}	-25 ~ +85	$^\circ\text{C}$
Storage Temperature		T_{STG}	-65 ~ +125	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ RECOMMENDED OPERATING CONDITIONS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Power Supply Voltage	V_{CC}	+4.5 ~ +14	V

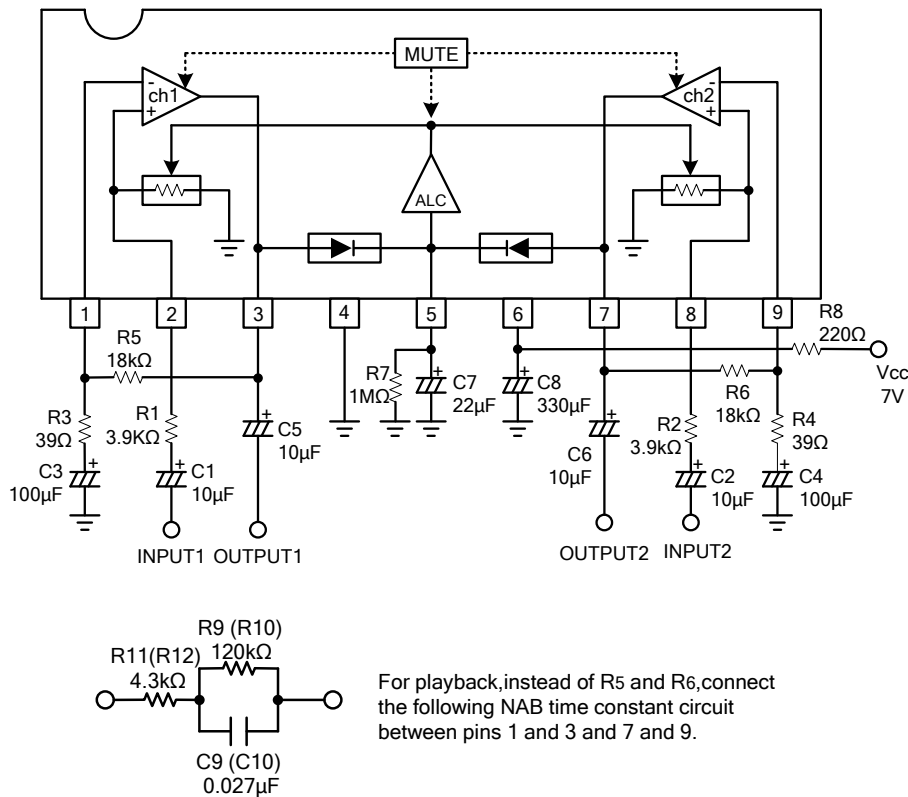
Note: This IC is not designed to be radiation-resistant.

■ ELECTRICAL CHARACTERISTICS

($T_A = 25^\circ\text{C}$, $V_{CC} = 7.0\text{V}$, $f = 1\text{kHz}$ and BPF: 20Hz ~ 20kHz, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Maximum Output Voltage	V_{OM}	THD=1%	0.6	1.2		V_{rms}
Input Conversion Noise Voltage	V_{NIN}	Conversion with $R_g = 2.2\text{k}\Omega$ and NAB34dB at 1kHz		1.0	2.0	μV_{rms}
Quiescent Current	I_Q	$V_{IN} = 0V_{rms}$	1.5	3.3	4.5	mA
Input Resistance	R_{IN}		15	31.5	45	$\text{k}\Omega$
Total Harmonic Distortion	THD	NAB34dB, $V_{OUT} = 40\text{mV}_{rms}$		0.1	0.3	%
Open Loop Voltage Gain	G_{VO}	$V_{OUT} = -10\text{dBV}$	70	80		dB
ALC Range	ALC	$R_G = 3.9\text{k}\Omega$, $V_{IN} = -70\text{dBV}$ reference, THD=3%	40	70		dB
ALC Channel Balance	ΔALC	$V_{IN} = -60\text{dBV}$, -30dBV		0	2.5	dB
Channel Separation	CS	$V_O = 0\text{dBV}$, NAB34dB	60	75		dB

■ TYPICAL APPLICATION CIRCUIT



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