



## BA3308

## LINEAR INTEGRATED CIRCUIT

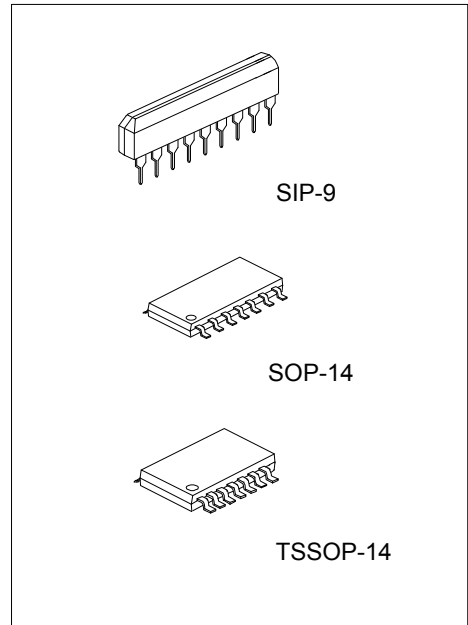
### DUAL PREAMPLIFIER WITH ALC

#### 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

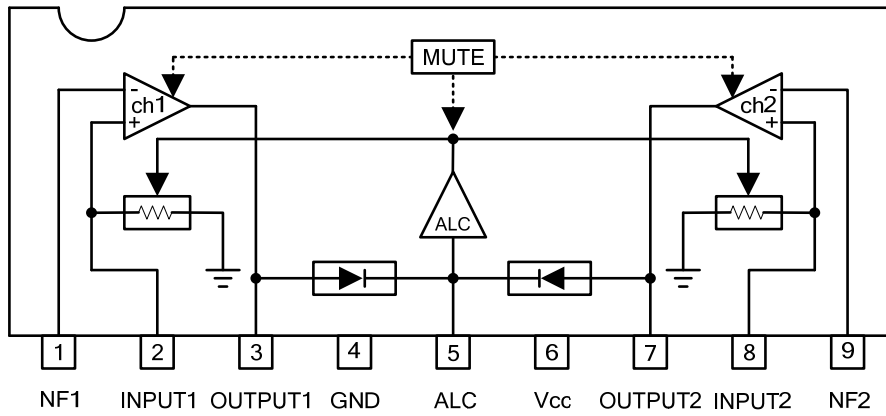
Ordering Number		Package	Packing
Lead Free	Halogen Free		
BA3308L-G09-T	BA3308G-G09-T	SIP-9	Tube
BA3308L-S14-R	BA3308G-S14-R	SOP-14	Tape Reel
BA3308L-P14-R	BA3308G-P14-R	TSSOP-14	Tape Reel

<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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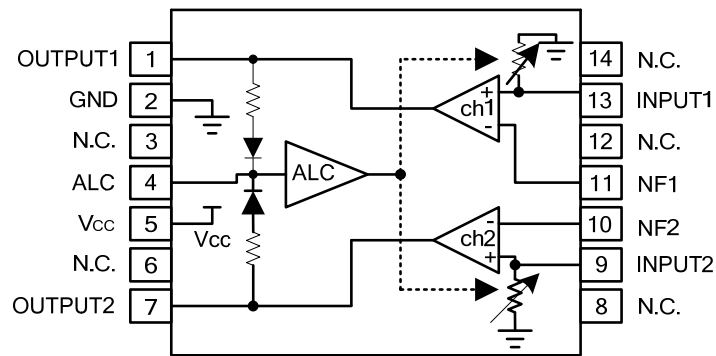
#### MARKING

SIP-9	SOP-14 / TSSOP-14

■ BLOCK DIAGRAM



SIP-9



SOP-14 / TSSOP-14

■ ABSOLUTE MAXIMUM RATING (T<sub>A</sub> =25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Power Supply Voltage	V <sub>CC</sub>	16	V
Power Dissipation	SIP-9	950	mW
	SOP-14	450	mW
	TSSOP-14	350	mW
Derating above T <sub>a</sub> = 25°C	SIP-9	9.5	°C/mW
	SOP-14	4.5	°C/mW
	TSSOP-14	3.5	°C/mW
Operating Temperature	T <sub>OPR</sub>	0 ~ +85	°C
Storage Temperature	T <sub>STG</sub>	-65 ~ +125	°C

■ RECOMMENDED OPERATING CONDITIONS (T<sub>A</sub> =25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Power Supply Voltage	V <sub>CC</sub>	+4.5 ~ +14	V

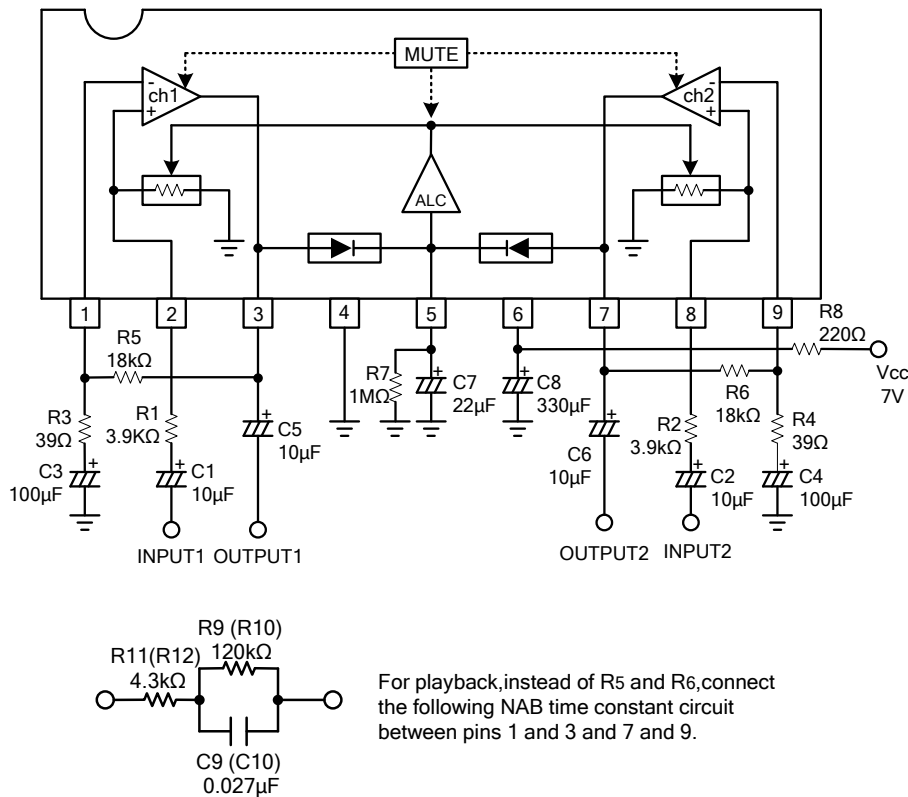
Note: This IC is not designed to be radiation-resistant.

■ ELECTRICAL CHARACTERISTICS

(T<sub>A</sub> = 25°C, V<sub>CC</sub> =7.0V, f =1kHz and BPF: 20Hz ~ 20kHz, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Maximum Output Voltage	V <sub>OM</sub>	THD=1%	0.6	1.2		V <sub>rms</sub>
Input Conversion Noise Voltage	V <sub>NIN</sub>	Conversion with R <sub>g</sub> =2.2kΩ and NAB34dB at 1kHz		1.0	2.0	μV <sub>rms</sub>
Quiescent Current	I <sub>Q</sub>	V <sub>IN</sub> =0Vrms	1.5	3.3	4.5	mA
Input Resistance	R <sub>IN</sub>		15	31.5	45	kΩ
Total Harmonic Distortion	THD	NAB34dB, V <sub>OUT</sub> =40mV <sub>rms</sub>		0.1	0.3	%
Open Loop Voltage Gain	G <sub>VO</sub>	V <sub>OUT</sub> = -10dBV	70	80		dB
ALC Range	ALC	R <sub>G</sub> =3.9kΩ, V <sub>IN</sub> =-70dBV reference, THD=3%	40	70		dB
ALC Channel Balance	ΔALC	V <sub>IN</sub> = -60dBV, -30dBV		0	2.5	dB
Channel Separation	CS	V <sub>O</sub> =0dBV, NAB34dB	60	75		dB

## ■ TYPICAL APPLICATION CIRCUIT



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