



## BA3308

Preliminary

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.

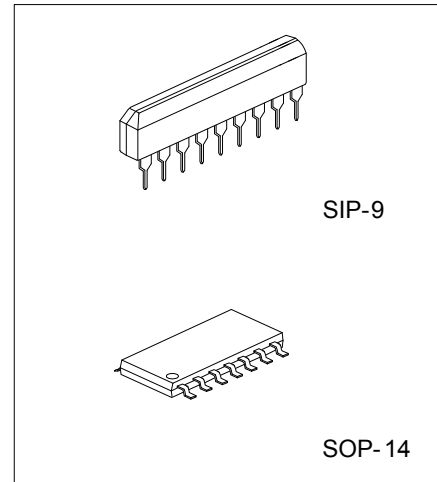
#### FEATURES

- \* 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

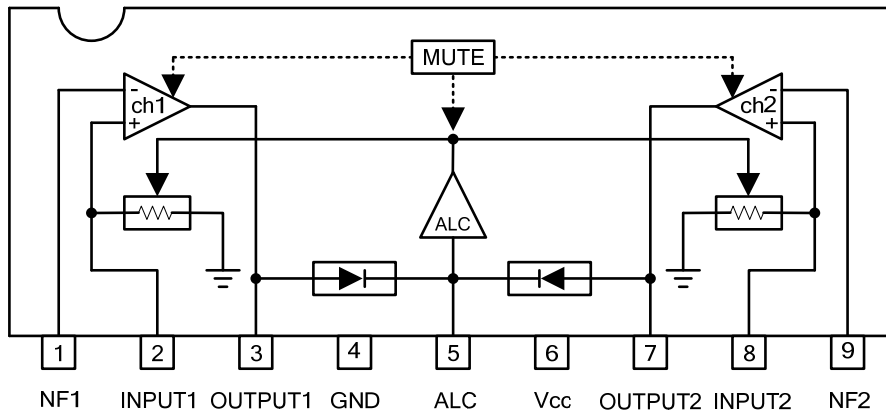
Ordering Number		Package	Packing
Lead Free	Halogen Free		
BA3308L-G09-T	BA3308G-G09-T	SIP-9	Tube
BA3308L-S14-R	BA3308G-S14-R	SOP-14	Tape Reel
BA3308L-S14-T	BA3308G-S14-T	SOP-14	Tube

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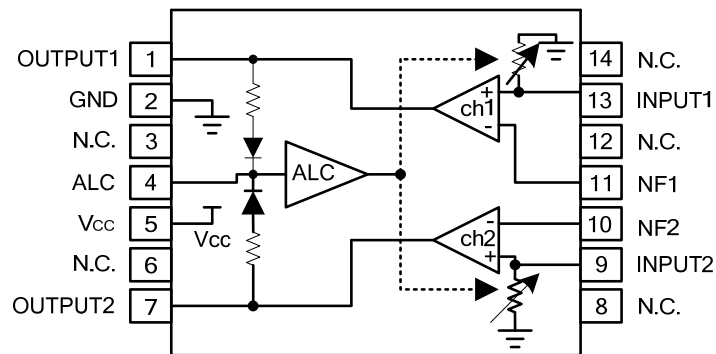


■ BLOCK DIAGRAM

SIP-9



SOP-14



### ■ ABSOLUTE MAXIMUM RATING (Ta = 25°C)

PARAMETER		SYMBOL	RATINGS	UNIT
Power Supply Voltage		$V_{CC}$	16	V
Power Dissipation	SIP-9	$P_D$	950	mW
	SOP-14		450	
Derating above Ta = 25°C	SIP-9		9.5	°C/mW
	SOP-14		4.5	
Operating Temperature		$T_{OPR}$	0 ~ +85	°C
Storage Temperature		$T_{STG}$	-65 ~ +125	°C

### ■ RECOMMENDED OPERATING CONDITIONS (Ta = 25°C)

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

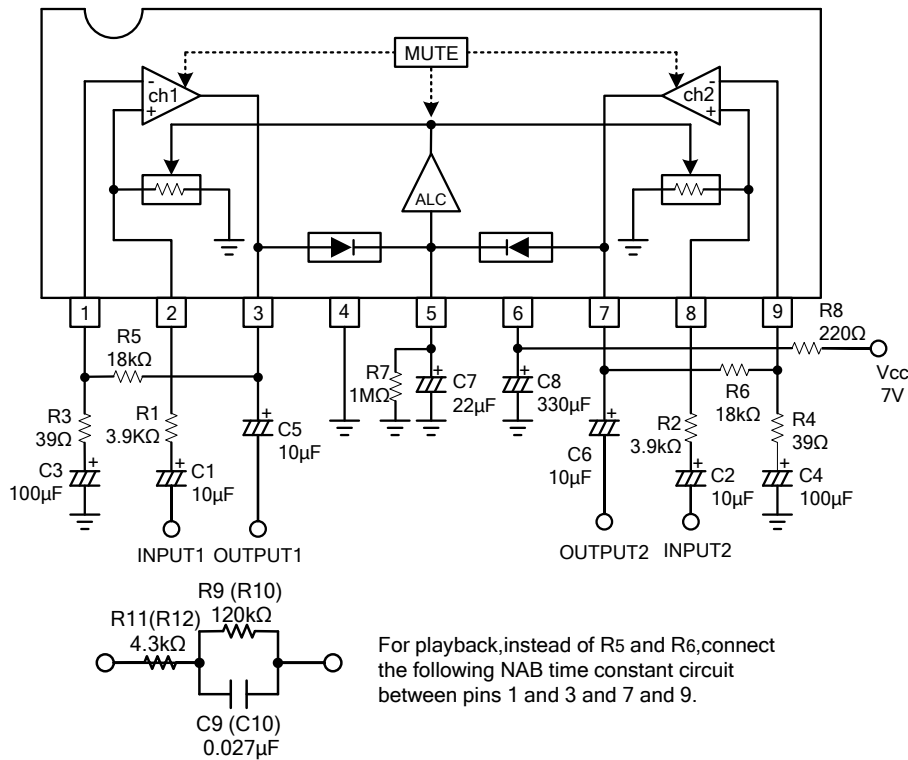
Note: This IC is not designed to be radiation-resistant.

### ■ ELECTRICAL CHARACTERISTICS

(Ta = 25°C,  $V_{CC}$  = 7.0V, f = 1kHz and BPF: 20Hz ~ 20kHz, unless otherwise noted.)

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 $R_g=2.2k\Omega$ and NAB34dB at 1kHz		1.0	2.0	$\mu V_{rms}$
Quiescent Current	$I_Q$	$V_{IN}=0V_{rms}$	1.5	3.3	4.5	mA
Input Resistance	$R_{IN}$		15	31.5	45	k $\Omega$
Total Harmonic Distortion	THD	NAB34dB, $V_{OUT}=40mV_{rms}$		0.1	0.3	%
Open Loop Voltage Gain	$G_{VO}$	$V_{OUT} = -10dBV$	70	80		dB
ALC Range	ALC	$R_G = 3.9k\Omega$ , $V_{IN} = -70dBV$ reference, THD=3%	40	70		dB
ALC Channel Balance	$\Delta ALC$	$V_{IN} = -60dBV$ , $-30dBV$		0	2.5	dB
Channel Separation	CS	$V_O = 0dBV$ , NAB34dB	60	75		dB

■ TYPICAL APPLICATION CIRCUIT



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