



## L3305

## LINEAR INTEGRATED CIRCUIT

### LOW VOLTAGE CLASS B AMPLIFIER

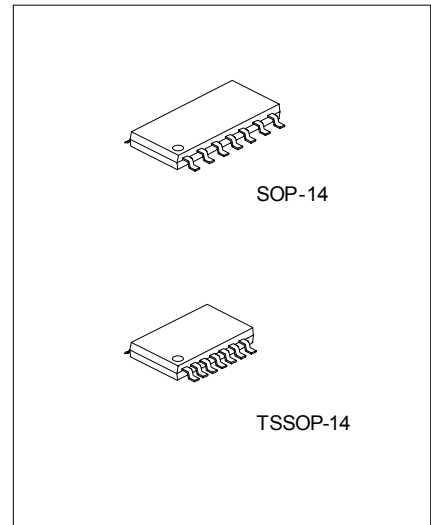
#### DESCRIPTION

The UTC **L3305** can be operated as a class B amplifier. It can also operated as a medium power "vari-bias" class A amplifier.

It include a preamplifier with adjustable gain and a power amplifier.

#### FEATURES

- \* Low Operating Voltage range (1V ~ 3V)
- \* Low Operating current consumption
- \* Feedback stabilized gain less than 80 dB
- \* Output power exceeds 140 dB SPL



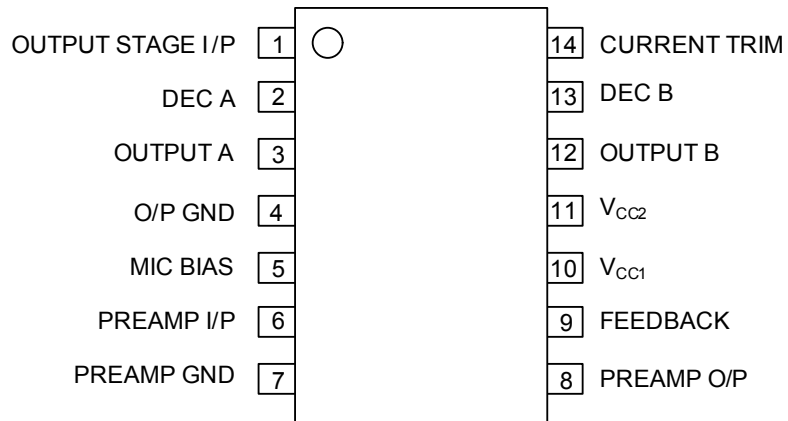
\*Pb-free plating product number: L3305L

#### ORDERING INFORMATION

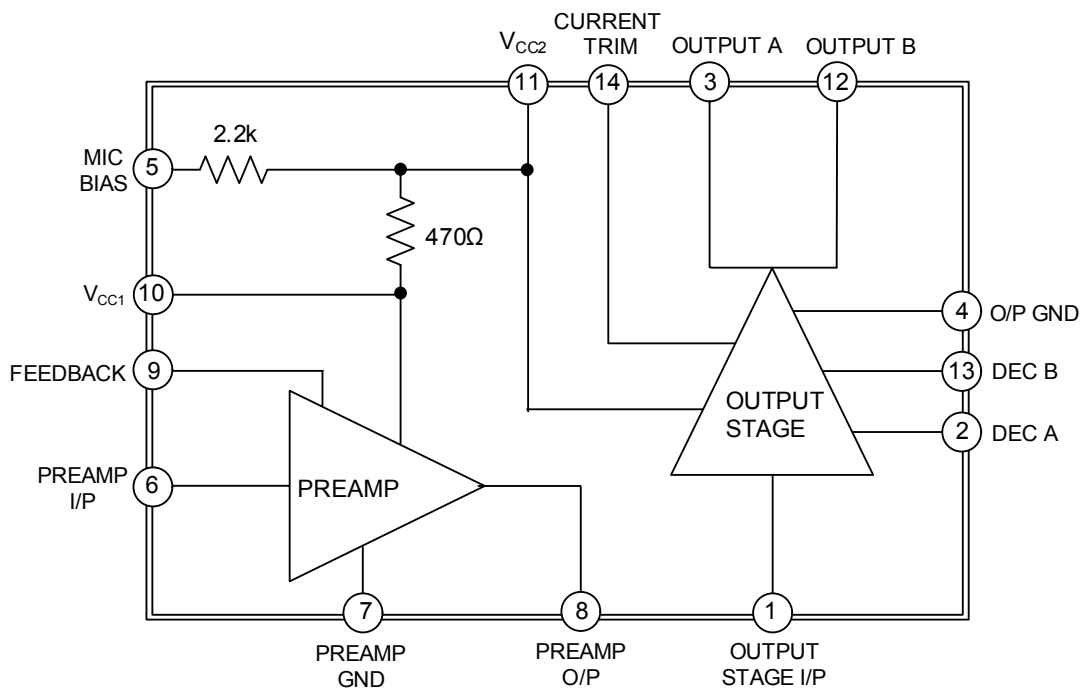
Ordering Number		Package	Packing
Normal	Lead Free Plating		
L3305-S14-R	L3305L-S14-R	SOP-14	Tape Reel
L3305-S14-T	L3305L-S14-T	SOP-14	Tube
L3305-P14-R	L3305L-P14-R	TSSOP-14	Tape Reel
L3305-P14-T	L3305L-P14-T	TSSOP-14	Tube

<p>L3305L-S14-T</p> <p>(1)Packing Type (2)Package Type (3)Lead Plating</p>	<p>(1) R: Tape Reel, T: Tube (2) S14: SOP-14, P14: TSSOP-14 (3) L: Lead Free Plating, Blank: Pb/Sn</p>
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### ■ PIN CONFIGURATION



■ BLOCK DIAGRAM



### ■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V <sub>CC1</sub>	3	V
Power Dissipation	P <sub>D</sub>	200	mW
Operating Temperature Range	T <sub>OPR</sub>	-10 ~ +60	
Storage Temperature Range	T <sub>STG</sub>	-20 ~ +70	

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.

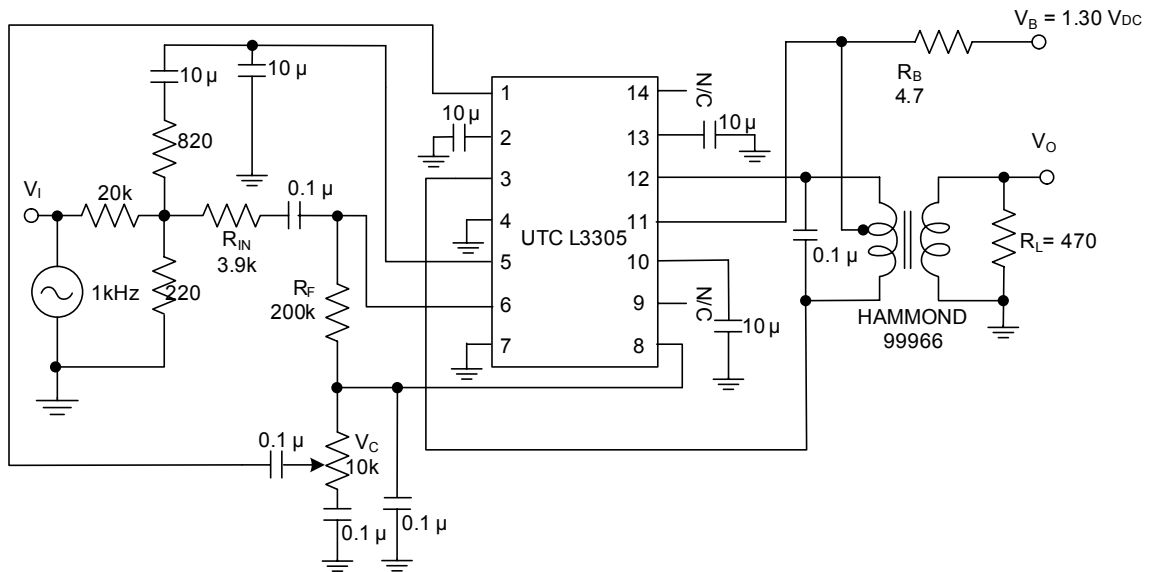
### ■ ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Referred Noise	eN			0.9	2.5	μV
Total Current	I <sub>TOT</sub>			0.7	1.2	mA
Voltage Gain	G <sub>V</sub>	Output = 0.707 V <sub>RMS</sub>	72	75	78	dB
Total Harmonic Distortion & Noise	THD	Output = 0.707 V <sub>RMS</sub>		1.5	3.0	%
Gain Dependence on R <sub>B</sub>				0.02		dB/Ω
Input Impedance of Output Amplifier	Z <sub>IN</sub>		18	27	36	kΩ
Stable with Battery Resistance					22	Ω
Frequency Response (-3 dB at 1 kHz)		Low		250		Hz
		High		12		kHz

Note: 1. All parameters tested in Test Circuit Fig. 1.

2. Conditions: Supply voltage V<sub>B</sub> = 1.3 V<sub>DC</sub>, Temperature ambient = 25 °C, Frequency = 1kHz, Noise Filter Bandwidth at 12 dB/oct (0.2 to 10kHz)

■ TEST CURICCT



Note: 1. Test Circuit Amplifier Gain =  $20 \text{ Log}_{10} (V_{OUT} / V_{IN}) + 40\text{dB}$   
 2. Preamp Gain =  $\frac{R_F}{R_{IN}}$  set at 35dB

Fig. 1 Test Circuit

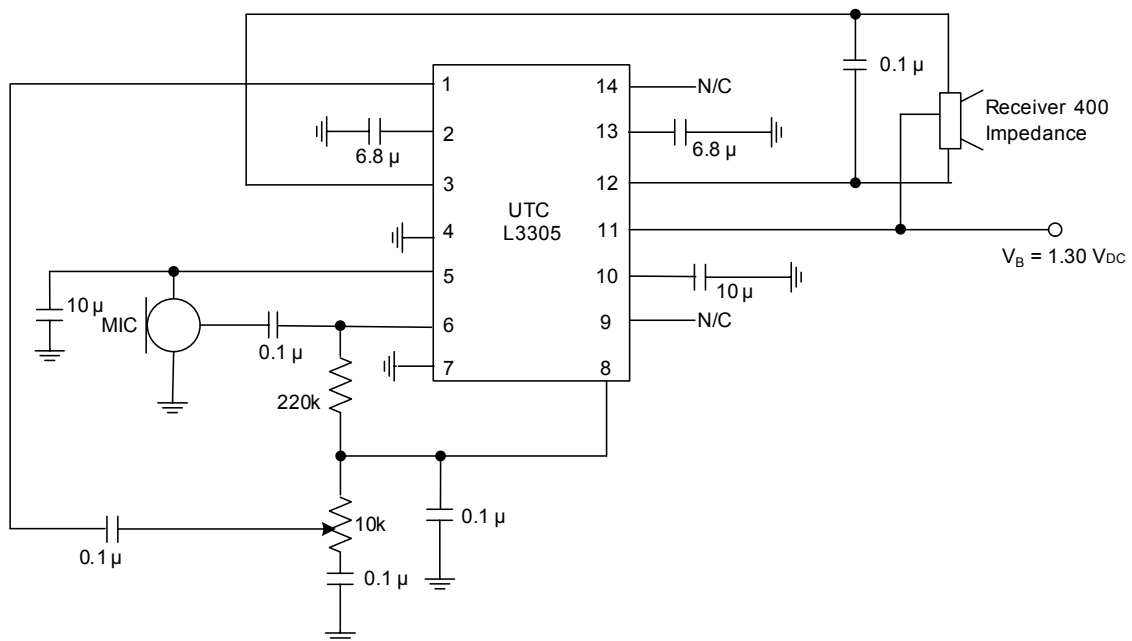


Fig. 2 Typical Hearing Aid Circuit

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