



L3305

LINEAR INTEGRATED CIRCUIT

LOW VOLTAGE CLASS B AMPLIFIER

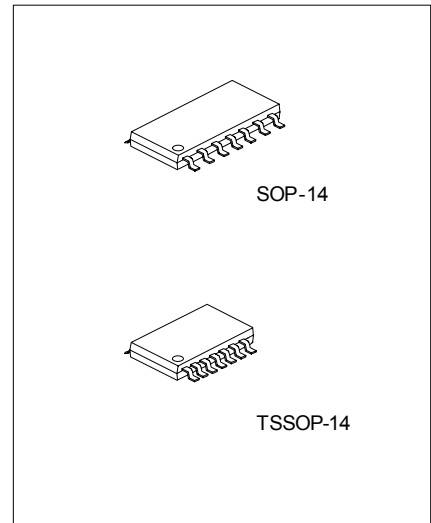
■ DESCRIPTION

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



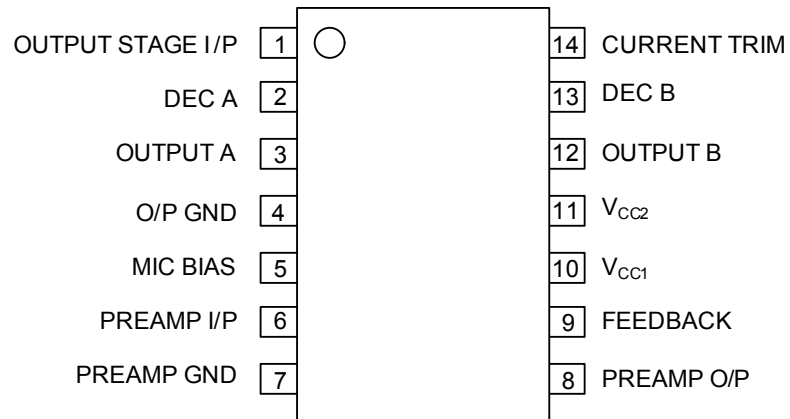
*Pb-free plating product number: L3305L

■ ORDERING INFORMATION

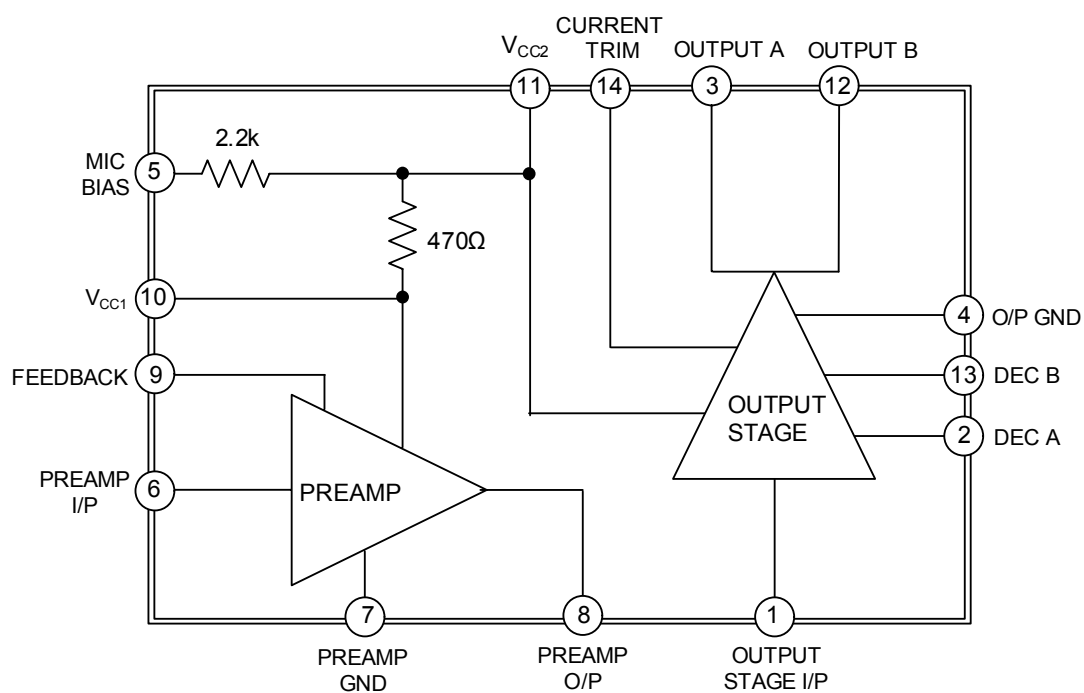
Ordering Number		Package	Packing
Normal	Lead Free Plating		
L3305-S14-R	L3305L-S14-R	SOP-14	Tape Reel
L3305-S14-T	L3305L-S14-T	SOP-14	Tube
L3305-P14-R	L3305L-P14-R	TSSOP-14	Tape Reel
L3305-P14-T	L3305L-P14-T	TSSOP-14	Tube

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



- BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V _{CC1}	3	V
Power Dissipation	P _D	200	mW
Operating Temperature Range	T _{OPR}	-10 ~ +60	°C
Storage Temperature Range	T _{STG}	-20 ~ +70	°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.

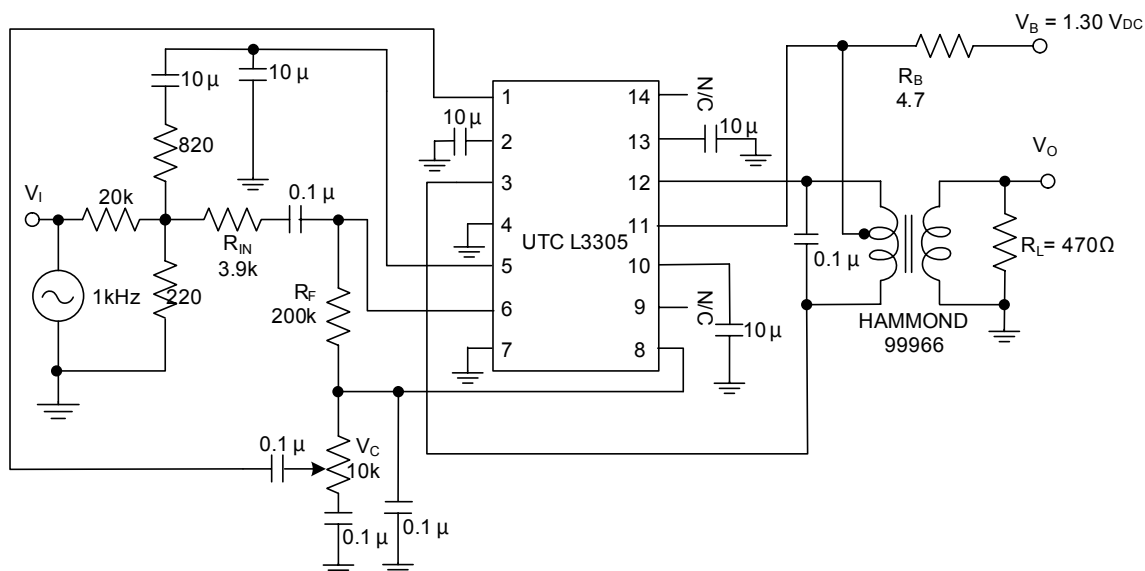
■ ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Referred Noise	eN			0.9	2.5	μV
Total Current	I _{TOT}			0.7	1.2	mA
Voltage Gain	G _V	Output = 0.707 V _{RMS}	72	75	78	dB
Total Harmonic Distortion & Noise	THD	Output = 0.707 V _{RMS}		1.5	3.0	%
Gain Dependence on R _B				0.02		dB/Ω
Input Impedance of Output Amplifier	Z _{IN}		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_B = 1.3 V_{DC}, Temperature ambient = 25°C, Frequency = 1kHz, Noise Filter Bandwidth at 12 dB/oct (0.2 to 10kHz)

■ TEST CURICT



Note: 1. Test Circuit Amplifier Gain = $20 \log_{10} (V_{OUT} / V_{IN}) + 40\text{dB}$

2. Preamp Gain = $\frac{R_F}{R_{IN}}$ set at 35dB

Fig. 1 Test Circuit

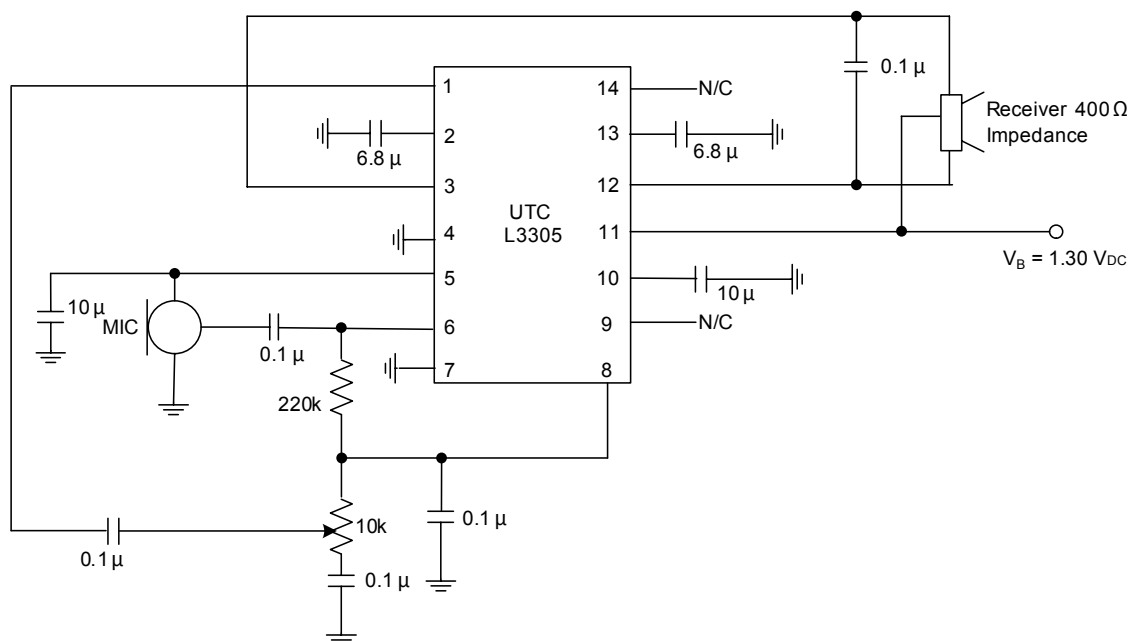


Fig. 2 Typical Hearing Aid Circuit

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