

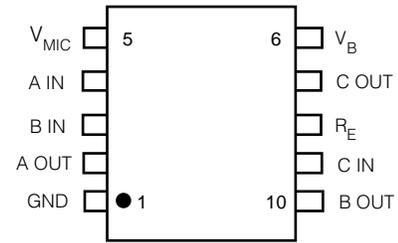


## ABSOLUTE MAXIMUM RATINGS

PARAMETER	VALUE / UNITS
Supply Voltage	5V DC
Power Dissipation	25 mW
Operating Temperature	-10° to + 40°C
Storage Temperature	-20° to + 70°C

**CAUTION**  
CLASS 1 ESD SENSITIVITY

## PIN CONNECTION



## ELECTRICAL CHARACTERISTICS

Conditions: Frequency = 1 kHz, Temperature = 25°C, Supply Voltage = 1.3 VDC

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Amplifier Current	$I_{AMP}$		80	145	210	$\mu A$
Transducer Current	$I_{TRANS}$	$R_E = \infty$	200	275	350	$\mu A$
Maximum Transducer Current	$I_{TRANS(MAX)}$	$R_E = 0 \Omega$	2	-	-	mA
Input Bias Current	$I_{BIAS}$	$R_{FA} = 1M, R_{FB} = 1M$	-50	0	50	nA
Input Referred Noise	IRN	NFB 0.2 to 10kHz at 12dB/Oct	-	1	2	$\mu VRMS$
Harmonic Distortion	THD	$S1 = b, V_{OUT} = 500 mVRMS$	-	1	4	%
Voltage Gain	$A_V$	$S1 = b, V_{OUT} = 500 mVRMS$	70	73	76	dB
Stable with Battery Resistance Resistance ( $R_B$ ) to:	Stability	$R_B = 22 \Omega$	-	-	22	$\Omega$
Emitter Bias Voltage (Pin 8)	$V_{RE}$		-	55	-	mV
Microphone Resistance	$R_{MIC}$		3	4	5	k $\Omega$
On Chip Emitter Resistor	$R_E$		-	200	-	$\Omega$
Preamp Current Drive Capability	$I_{OUT}$		-	30	-	$\mu A$

All switches remain as shown in Test Circuit unless otherwise stated in CONDITIONS column.

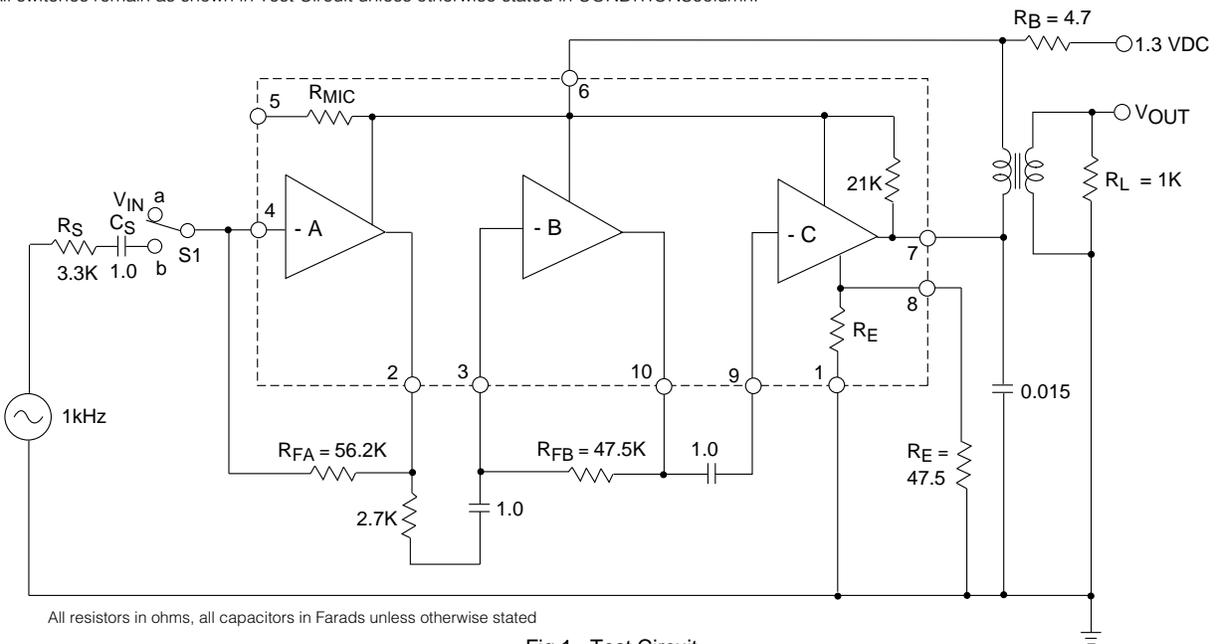


Fig.1 Test Circuit

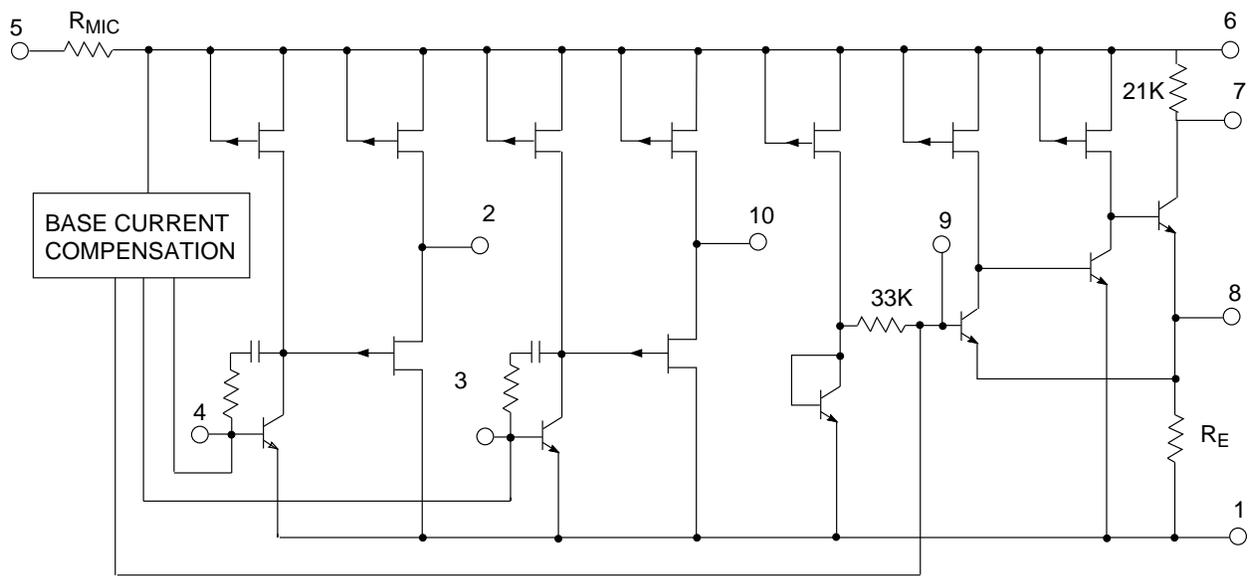
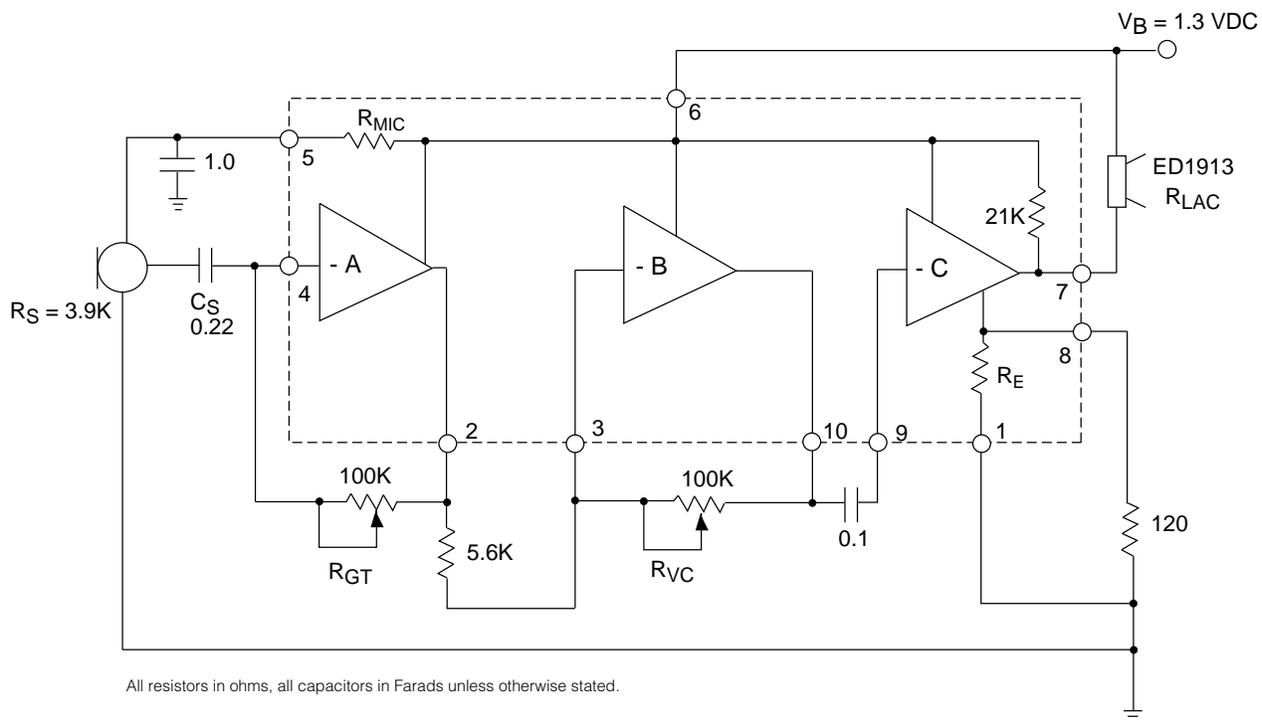


Fig. 2 Functional Schematic



$$\text{Gain of stage A} = 20 \text{ Log } 10 \frac{R_{GT}}{R_S}$$

$$\text{Gain of stage B} = 20 \text{ Log } 10 \frac{R_{VC}}{5.6K}$$

$$\text{Gain of stage C} = 20 \text{ Log } 10 \frac{R_{LAC}/21K}{R_E/120}$$

Fig. 3 Typical Hearing Aid Circuit

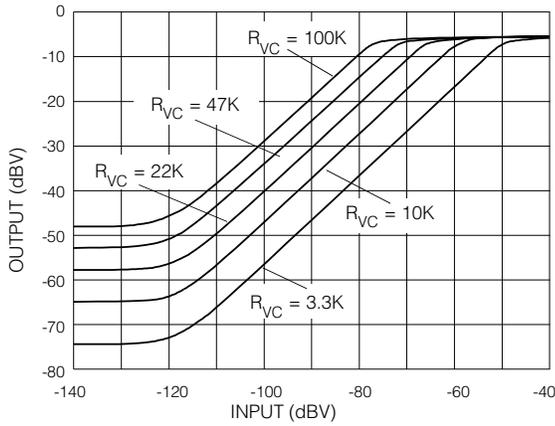


Fig. 4 I/O Curves at Various  $R_{vc}$  Settings

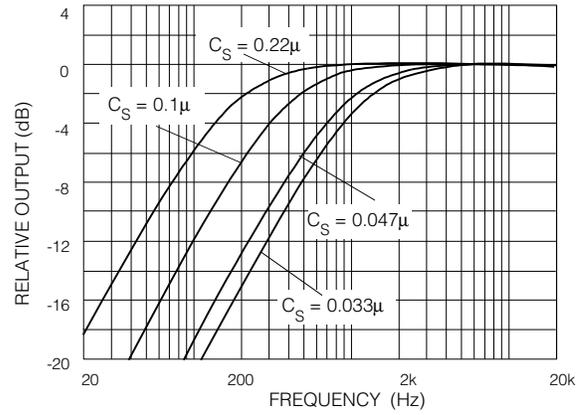


Fig. 5. Closed Loop Frequency Response with Various  $C_s$  Values

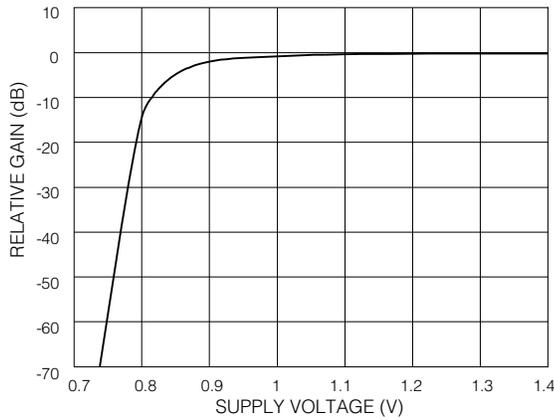


Fig. 6 Gain vs Supply Voltage

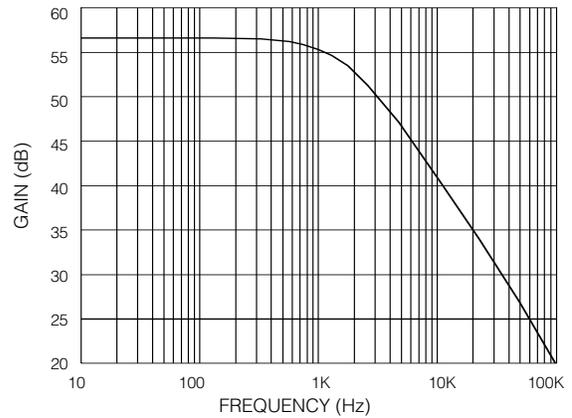


Fig. 7 Preamp Open Loop Frequency Response

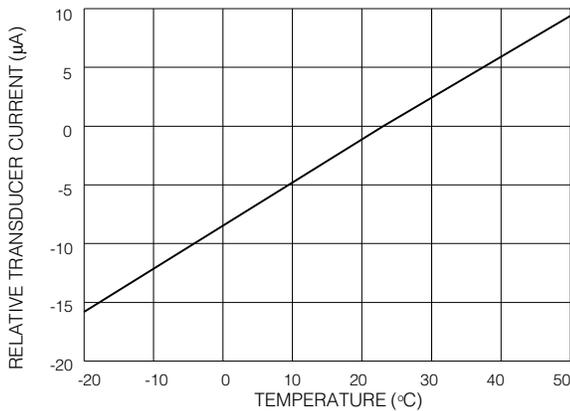


Fig. 8 Transducer Current vs Temperature

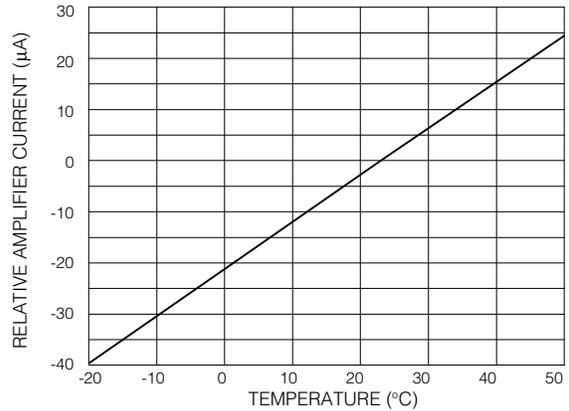


Fig. 9 Amplifier Current vs Temperature

**REVISION NOTES**

Changes to standard packaging.

Gennum Corporation assumes no responsibility for the use of any circuits described herein and makes no representations that they are free from patent infringement.

© Copyright July 1989 Gennum Corporation. Revision Date: July 1992  
All rights reserved. Printed in Canada.

**DOCUMENT IDENTIFICATION**

**PRODUCT PROPOSAL**

This data has been compiled for market investigation purposes only, and does not constitute an offer for sale.

**ADVANCE INFORMATION NOTE**

This product is in development phase and specifications are subject to change without notice. Gennum reserves the right to remove the product at any time. Listing the product does not constitute an offer for sale.

**PRELIMINARY DATA SHEET**

The product is in a development phase and specifications are subject to change without notice.

**DATA SHEET**

The product is in production. Gennum reserves the right to make changes at any time to improve reliability, function or design, in order to provide the best product possible.