GENNUM CORPORATION

Class A Output Stage with Input Biasing

LE507 DATA SHEET

FEATURES

- **76 dB of gain**
- **internal DC bias for I/P stage**
- **applications include AF output stages, hearing aids and RF amplifiers**
- **total harmonic distortion 1% (typical)**

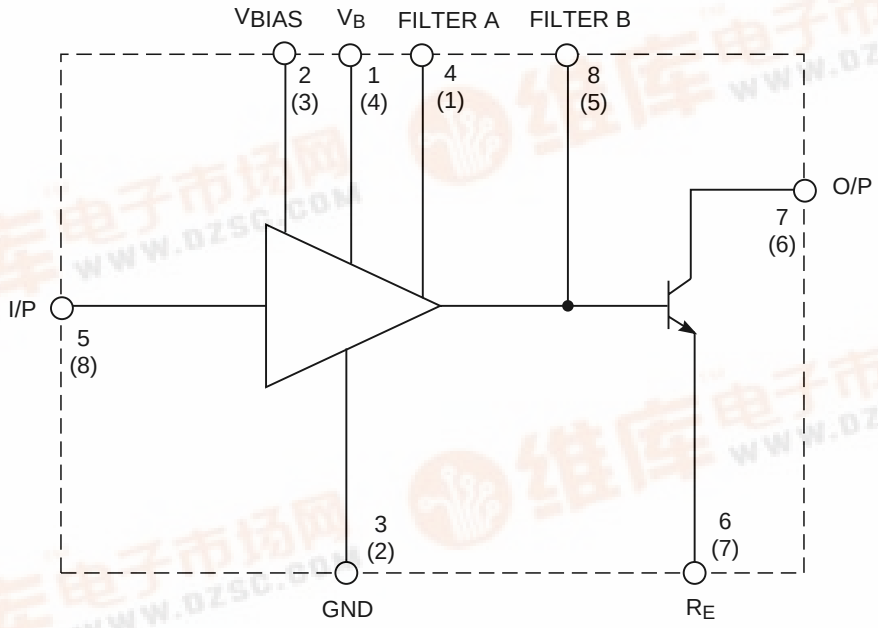
STANDARD PACKAGING

- 8 pin PLID ®
- 8 pin DIP

DESCRIPTION

The LE507 is a low voltage class A amplifier design, primarily for low voltage and low power use. The broad application include AF output stages, RF amplifiers and output stages of the hearing instruments. The circuit is comprised of three stages all of them having access to their collectors for frequency shaping, feedback, etc. The provision for the bias network and alternative gain increase to 76 dB are included on the circuit.

For more application information refer to Information Note 520 - 30.



All external resistors in ohms, all capacitors in µF unless otherwise stated.
Numbers in brackets are for DIP package.

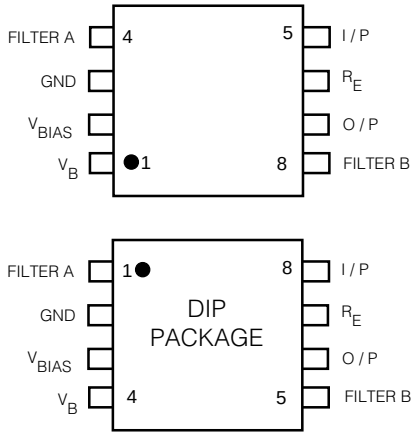
BLOCK DIAGRAM

ABSOLUTE MAXIMUM RATINGS

PARAMETER	VALUE/UNITS
Supply Voltage	5 V DC
Power Dissipation	25 mW
Operating Temperature Range	-10°C to40° C
Storage Temperature Range	-20°C to 70° C

CAUTION
CLASS 1 ESD SENSITIVITY

PIN CONNECTION



ELECTRICAL CHARACTERISTICS

Supply voltage 1.3 VDC, ambient temperature 25^{O}C

Conditions are as per test circuit unless otherwise stated

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Voltage Gain	V_A	Output level 0.5 VRMS	28	30	32	dB
Total Harmonic Distortion	T.H.D.	Output level 0.5 VRMS	-	1	2	%
Total Current	I_{Total}		1.05	1.3	1.6	mA
Emitter Voltage	V_{RE}		27	34	41	mV

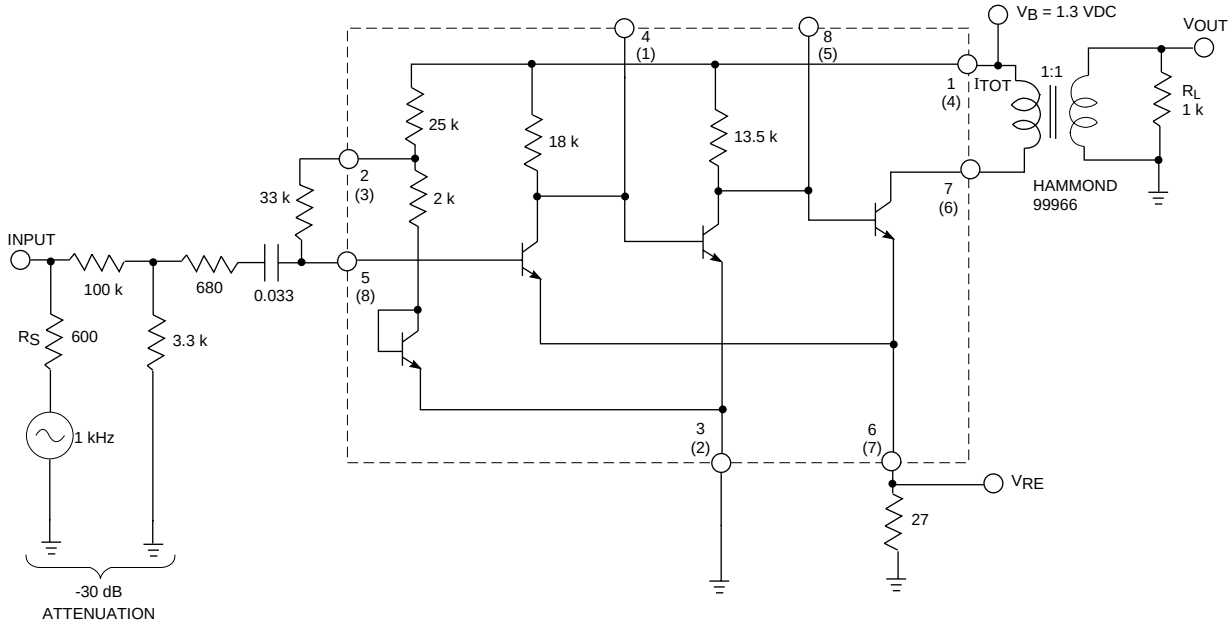


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Fig.1 Test Circuit

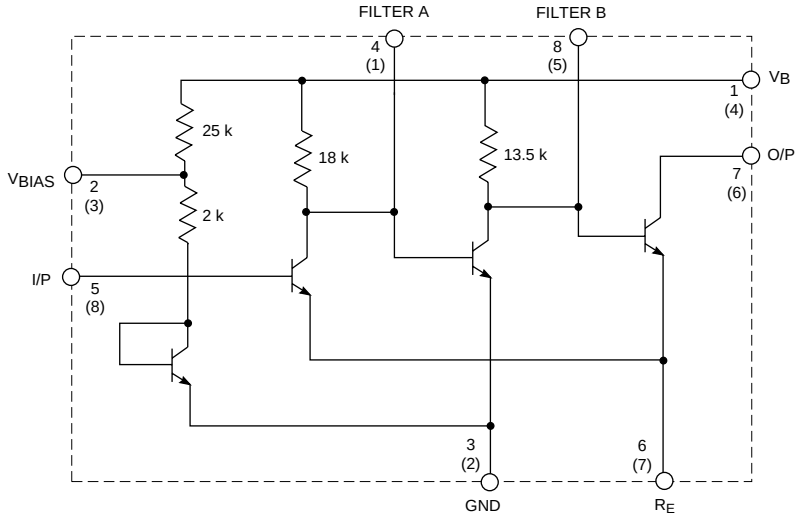

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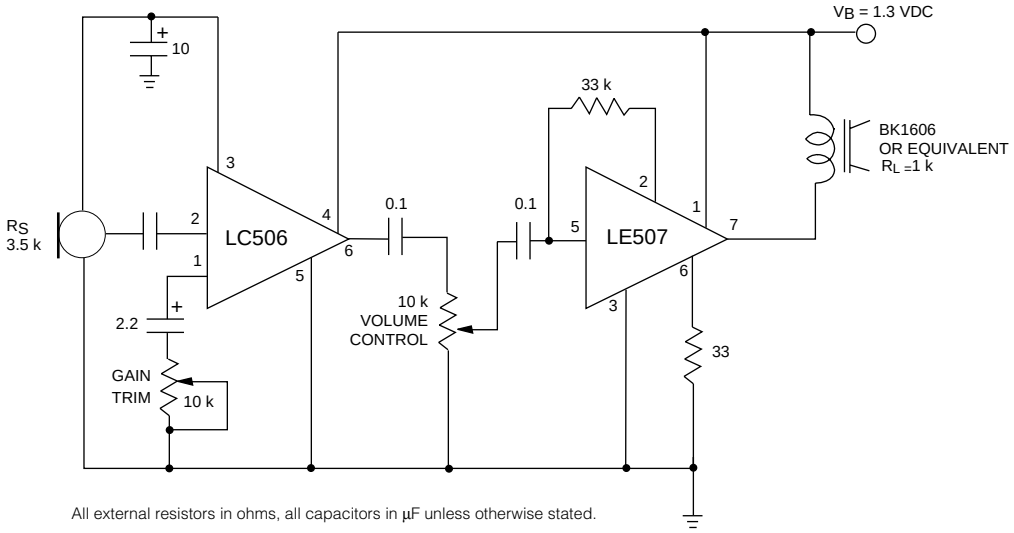
Fig. 2 Functional Schematic



All external resistors in ohms, all capacitors in μF unless otherwise stated.

Fig. 3 LC506/LE507 Typical Hearing Aid Circuit

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.

REVISION NOTES

Changes to standard packaging information