

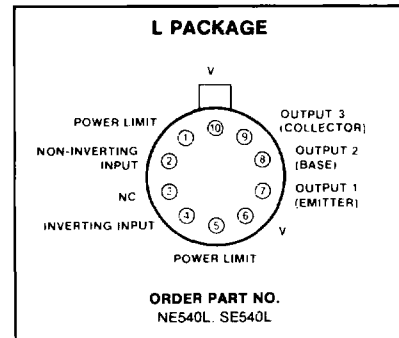
DESCRIPTION

The NE/SE540 is a monolithic, class AB power amplifier designed specifically to drive a pair of complementary output transistors. The device features low standby current yet retains a high output current drive capability with internal current limiting. A wide power bandwidth and excellent linearity make this device ideal for use as an audio power amplifier.

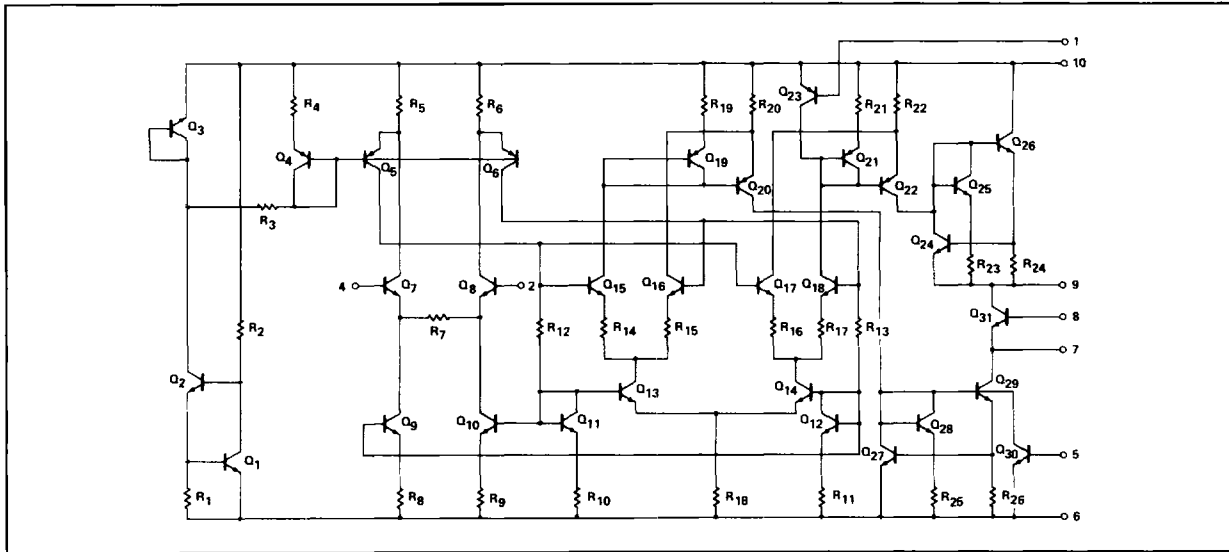
FEATURES

- Internal current limiting
- Low standby current
- High output current capability
- Wide power bandwidth
- Low distortion

PIN CONFIGURATION



EQUIVALENT SCHEMATIC



ABSOLUTE MAXIMUM RATINGS

PARAMETER	RATING	UNIT
Supply voltage		
SE540	±27	V
NE540	±22	V
Operating temperature range		
SE540	-55 to +125	°C
NE540	0 to +70	°C
Storage temperature range	-65 to +150	°C
Output short circuit duration (Not exceeding maximum dissipation.)	Indefinite	

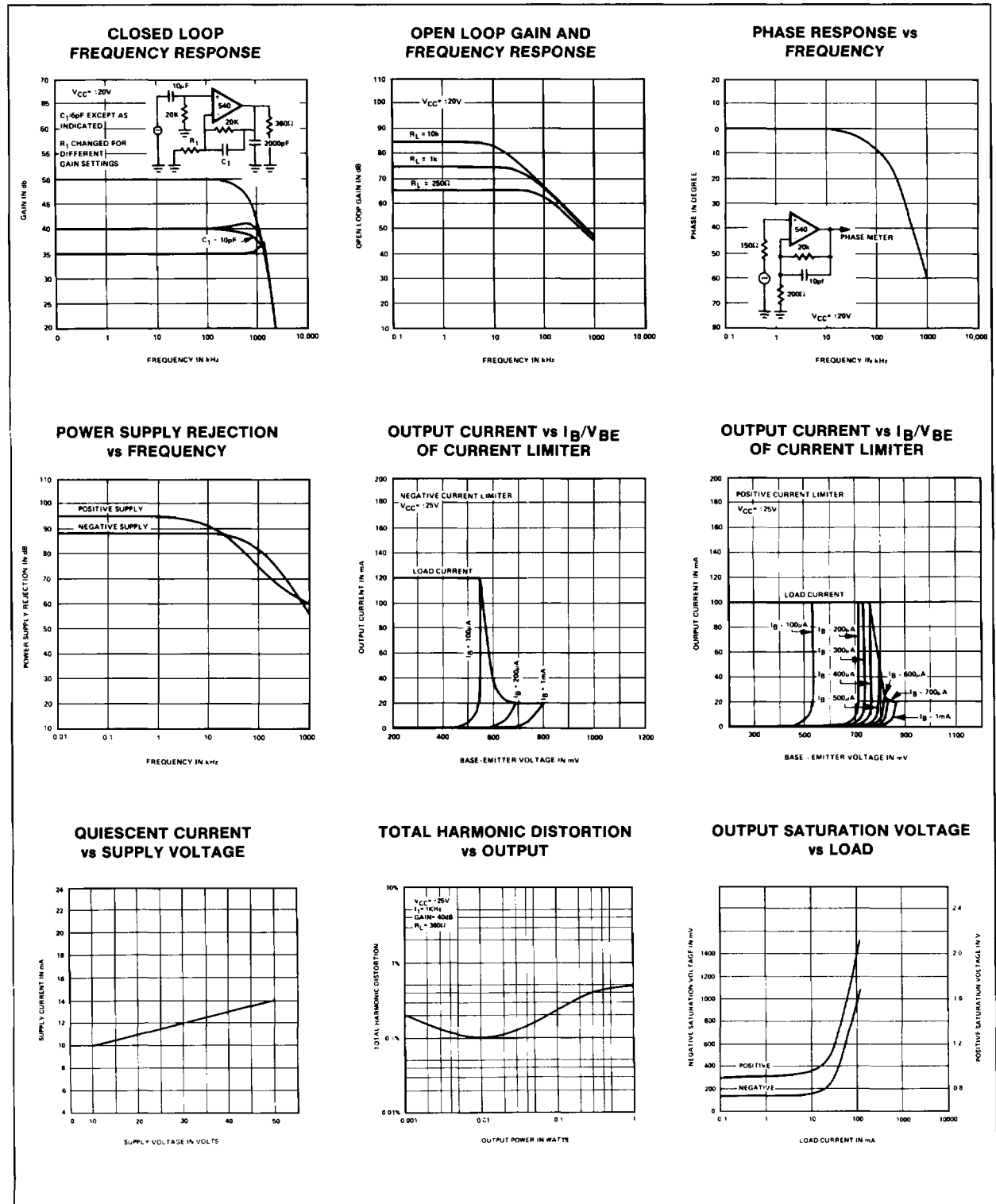
DC ELECTRICAL CHARACTERISTICS $T_A = 25^\circ\text{C}$ and $V_{CC} = \pm 20\text{V}$ unless otherwise specified.

PARAMETER	TEST CONDITIONS	SE540			NE540			UNIT
		Min	Typ	Max	Min	Typ	Max	
Operating supply voltage		± 5		± 25	± 5		± 20	V
Quiescent current			13	20		13	20	mA
Input offset voltage			5	7		7	10	mV
Input offset current			0.3	0.7		0.5	1	μA
Input bias current			1.5	3		2	5	μA
Input impedance			20			20		k Ω
Current gain	40dB gain	80	100		70	90		dB
Gain variation over temperature range			± 0.1			± 0.1		dB
Power supply rejection ratio	40dB gain	80	90		60	80		dB
Common mode rejection ratio			110			90		dB
Output drive current		± 120	± 150		± 80	± 100		mA

AC ELECTRICAL CHARACTERISTICS $T_A = 25^\circ\text{C}$ and $V_{CC} = \pm 20\text{V}$ unless otherwise specified.

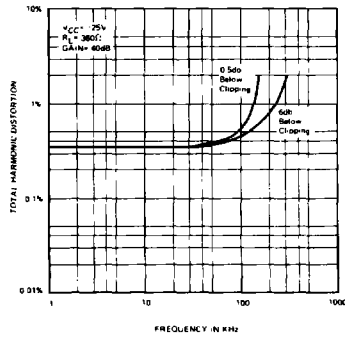
PARAMETER	TEST CONDITIONS	SE540			NE540			UNIT
		Min	Typ	Max	Min	Typ	Max	
Frequency response	40dB gain $\pm 1\text{dB}$		500			100		kHz
Distortion	40dB gain, Output 3dB below maximum $R_L = 600\Omega$ $R_L = 2k\Omega$		0.25	0.5		0.5	1.0	%
			0.06			0.06		
Equivalent input noise voltage	$R_S = 600\Omega$ 50Hz to 500kHz		10			10		μV
Slew rate	$V_{CC} = \pm 20\text{V}$ $V_{OUT} = \pm 15\text{V}$		200			200		V/ μs

TYPICAL PERFORMANCE CHARACTERISTICS

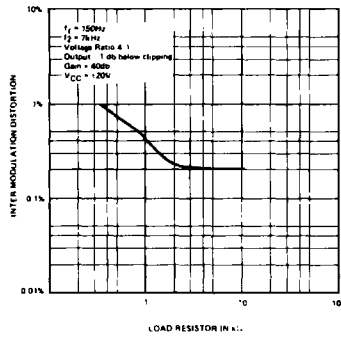


TYPICAL PERFORMANCE CHARACTERISTICS (Cont'd)

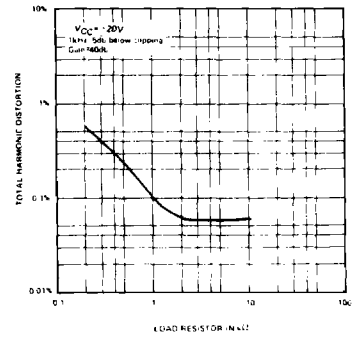
TOTAL HARMONIC DISTORTION vs FREQUENCY



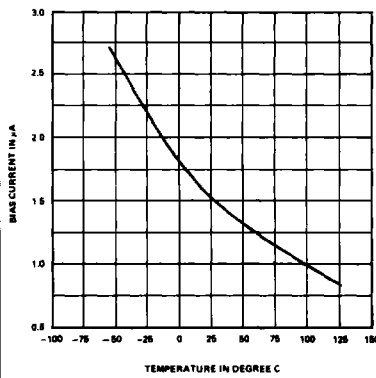
INTERMODULATION DISTORTION vs LOAD



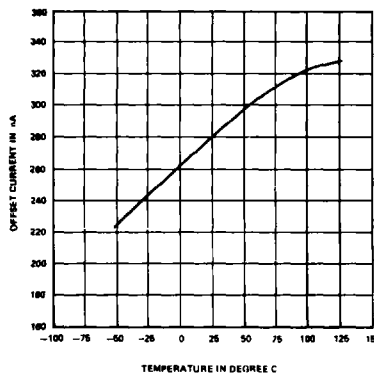
TOTAL HARMONIC DISTORTION vs LOAD



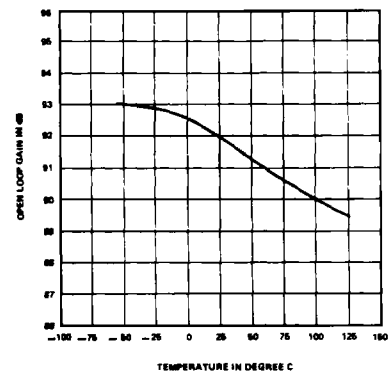
BIAS CURRENT vs TEMPERATURE



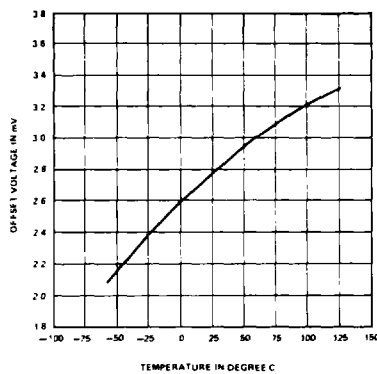
OFFSET CURRENT vs TEMPERATURE



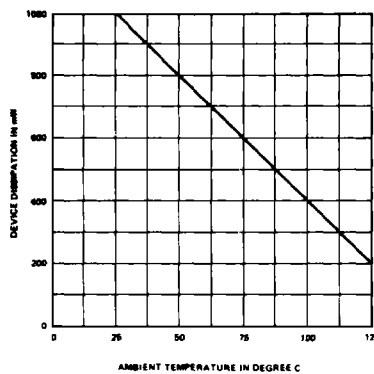
OPEN LOOP GAIN vs TEMPERATURE



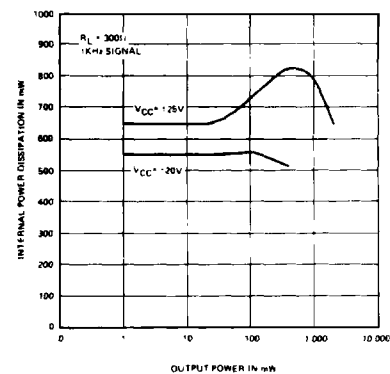
OFFSET VOLTAGE vs TEMPERATURE



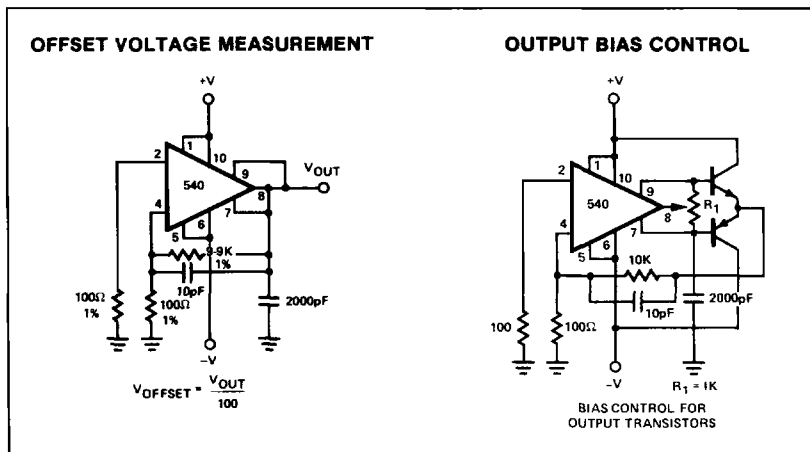
MAXIMUM DISSIPATION vs AMBIENT TEMPERATURE



INTERNAL POWER DISSIPATION vs LOAD POWER



TEST CIRCUITS



35 WATT AMPLIFIER

