

LINEAR INTEGRATED CIRCUITS

DESCRIPTION

The 540 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

ABSOLUTE MAXIMUM RATINGS

Supply Voltage	± 27 Volts SE540
	± 22 Volts NE540
Operating Temperature Range	-55°C to $+125^{\circ}\text{C}$ SE540
	0°C to $+70^{\circ}\text{C}$ NE540
Storage Temperature Range	-65°C to $+150^{\circ}\text{C}$
Output Short Circuit Duration	Indefinite
(Not exceeding maximum dissipation.)	

PIN CONFIGURATION

L PACKAGE
(Top View)

1. Power Limit
2. Non Inverting Input
3. NC
4. Inverting Input
5. Power Limit
6. V^-
7. Output 1 (emitter)
8. Output 2 (base)
9. Output 3 (collector)
10. V^+

ORDER PART NOS. SE540L/NE540L

ELECTRICAL CHARACTERISTICS ($T_A = 25^{\circ}\text{C}$ unless otherwise specified)

PARAMETER	TEST CONDITIONS	SE 540			NE 540			UNIT
		MIN	TYP	MAX	MIN	TYP	MAX	
Operating Temperature Range		-55		$+125$	0		$+70$	$^{\circ}\text{C}$
Operating Supply Voltage		± 5		± 25	± 5		± 20	Volts
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	40 dB Gain		20			20		$k\Omega$
Current Gain		80	100		70	90		dB
Gain Variation Over Temperature Range	40 dB Gain		± 0.1			± 0.1		dB
Frequency Response	40 dB Gain ± 1 dB		500			100		kHz
Distortion	40 dB Gain Output 3 dB below maximum $R_L = 800\Omega$ $R_L = 2K\Omega$		0.25 0.06	0.5		0.5 0.06	1.0	%
Equivalent Input Noise Voltage	$R_C = 800\Omega$ 50 Hz to 500 kHz		10			10		μV
Power Supply Rejection Ratio	40 dB Gain	80	90		60	80		dB
Common Mode Rejection Ratio			110			90		dB
Output Drive Current		± 120	± 150		± 80	± 100		mA
Slew Rate	$V_S = \pm 20\text{V}$ $V_{OUT} = \pm 15\text{V}$		200			200		V/ μs