

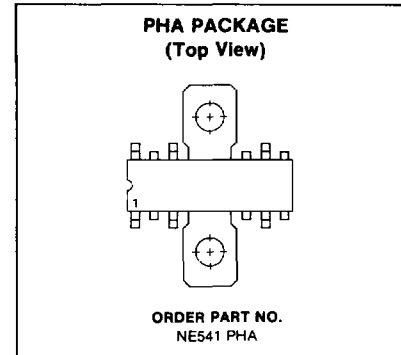
**DESCRIPTION**

The NE541 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**



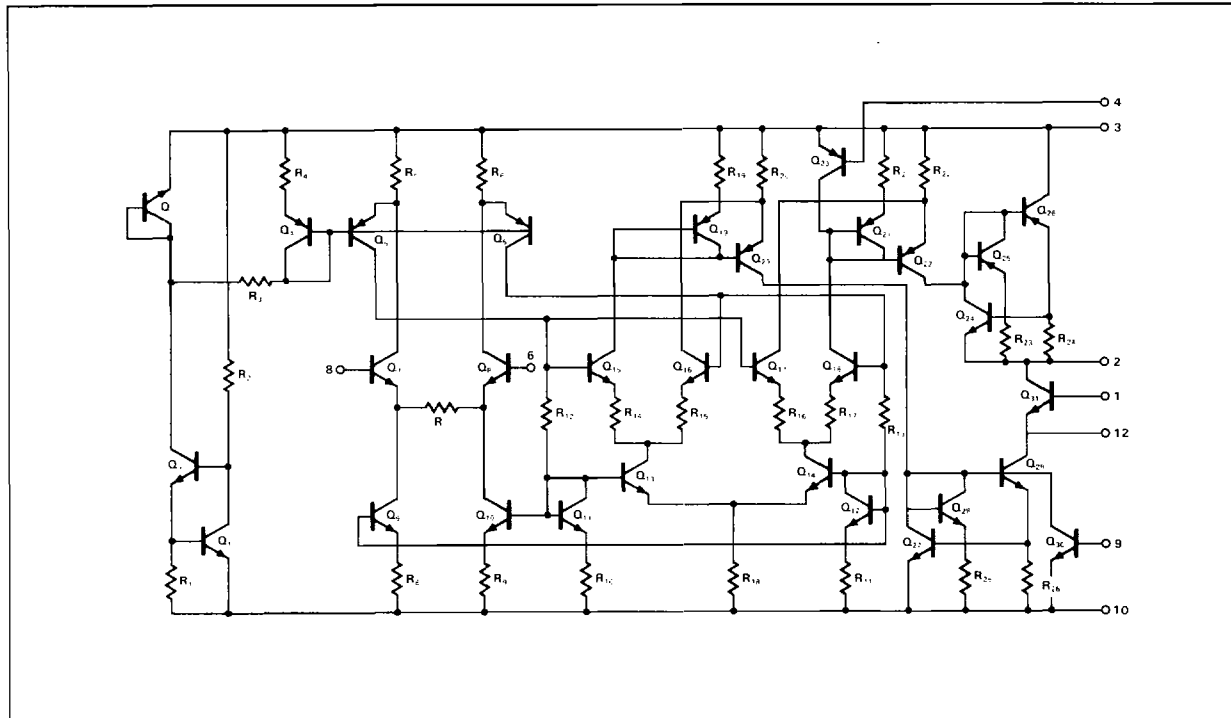
**ABSOLUTE MAXIMUM RATINGS**

PARAMETER	RATING	UNIT
Supply voltage	±42	V
Operating temperature range	0 to +70	°C
Storage temperature range	-65 to +150	°C
Output short circuit duration (Not exceeding maximum dissipation.)	Indefinite	

**PIN DESIGNATION**

PIN NO.	NAME AND FUNCTION
1	Output 2 (base)
2	Output 3 (collector)
3	V+
4	Power limit
5	NC
6	Non-inverting input
7	NC
8	Inverting input
9	Power limit
10	V-
11	NC
12	Output 1 (emitter)

**BLOCK DIAGRAM**



**DC ELECTRICAL CHARACTERISTICS**  $T_A = 25^\circ\text{C}$ ,  $V_{CC} = \pm 40\text{V}$  unless otherwise specified.<sup>1</sup>

PARAMETER	TEST CONDITIONS	NE541			UNIT
		Min	Typ	Max	
Operating temperature range		0		+70	$^\circ\text{C}$
Operating supply voltage		$\pm 5$		$\pm 40$	V
Quiescent current			14	25	mA
Input offset voltage			7	10	mV
Input offset current			0.5	1	$\mu\text{A}$
Input bias current			2	6	$\mu\text{A}$
Input impedance	40dB gain		20		k $\Omega$
Current gain		70	90		dB
Gain variation over temperature range	40dB gain		$\pm 0.1$		dB
Power supply rejection ratio	40dB gain	60	70		dB
Common mode rejection ratio			90		dB
Output drive current		55	80		mA

## NOTES

- Heat sink tab is tied to substrate—do not ground or tie to any voltage.
- Not exceeding maximum dissipation

**AC ELECTRICAL CHARACTERISTICS**  $T_A = 25^\circ\text{C}$ ,  $V_{CC} = \pm 40\text{V}$  unless otherwise specified.

PARAMETER	TEST CONDITIONS	NE541			UNIT
		Min	Typ	Max	
Frequency response	40dB gain $\pm 1\text{dB}$		100		kHz
Distortion	40dB gain, Output 3dB below maximum, $R_L = 600\Omega$		0.4	1.0	%
Equivalent input noise voltage	$R_S = 600\Omega$ , 50Hz to 500kHz		10		$\mu\text{V}$