

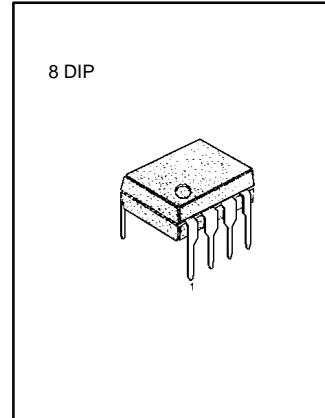
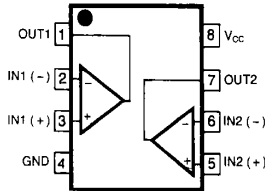
DUAL OPERATIONAL AMPLIFIERS

The NE5532 is an internally compensated dual low noise op AMP. The high small signal and power bandwidths provides superior performance in high quality AMP, all control circuits, and telephone applications.

FEATURE

- Internal frequency compensation
- Slew Rate: 8V/μs
- Input noise voltage:  $8nV/\sqrt{\text{Hz}}$  ( $f_o = 30\text{Hz}$ )
- Full power bandwidth: 140KHz

BLOCK DIAGRAM



ORDERING INFORMATION

Device	Package	Operating Temperature
NE5532	8 DIP	0 ~ + 70 °C

ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ )

Characteristics	Symbol	NE5532	Unit
Power Supply Voltage	$V_{CC}$	$\pm 22$	V
Differential Input Voltage	$V_{IO}$	13	V
Input Voltage	$V_I$	Supply Voltage	V
Power Dissipation	$P_D$	1000	mW
Operating Temperature Range	$T_{OPR}$	0 ~ + 70	°C

ELECTRICAL CHARACTERISTICS ( $V_{CC} = -5V, V_{EE} = -15V, T_A = 25^\circ\text{C}$ )

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Offset Voltage	$V_{IO}$			0.5	4.0	mV
Input Offset Current	$I_{IO}$			10	150	nA
Input Bias Current	$I_{BIAS}$			200	800	nA
Supply Current	$I_{CC}$			6.0	16	mA
Input Voltage Range	$V_{I(R)}$		$\pm 12$	$\pm 13$		V
Common Mode Rejection Range	CMRR	$T_A = 25^\circ\text{C}$	70	100		dB
Power Supply Rejection Ratio	PSRR	$T_A = 25^\circ\text{C}$	80	100		dB
Output Voltage Swing	$V_{O(P,P)}$	$R_L \geq 600\Omega$	$\pm 12$	$\pm 13$		V
Input Resistance	$R_I$	$T_A = 25^\circ\text{C}$	30	300		KΩ
Short Circuit Current	$I_{SC}$			38		mA
Overshoot	$O_S$	$R_L = 600\Omega, C_L = 100\text{pF}$		10	20	%
Gain	$G_V$	$f = 10\text{KHz}$	2	2.2		V/mV
Gain Bandwidth Product	GBW	$C_L = 100\text{pF}, R_L = 600\Omega$	8	10		MHz
Slew Rate	SR	$R_L = 1K, C_L = 100\text{pF}, R_L = 600\Omega$	6	8.0		V/us
Input Noise Voltage	$V_{NI}$	$f_o = 30\text{Hz}$ $f_o = 1\text{KHz}$		8.0 5.0		nV/√Hz

TYPICAL PERFORMANCE CHARACTERISTICS

Fig. 1 Open Loop Frequency Response

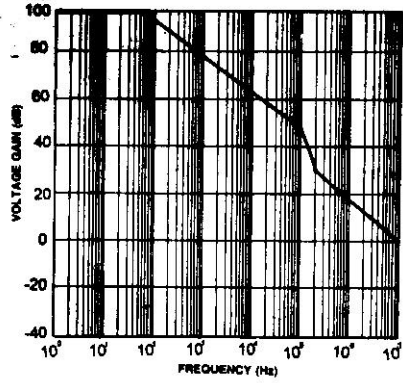


Fig. 2 Large Signal Frequency Response

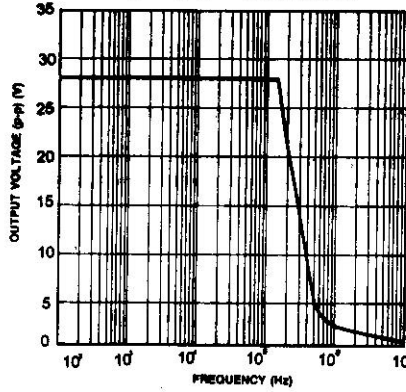


Fig. 3 Supply Current

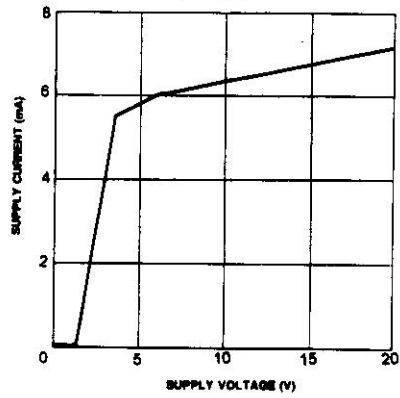


Fig. 4 Input Bias Current

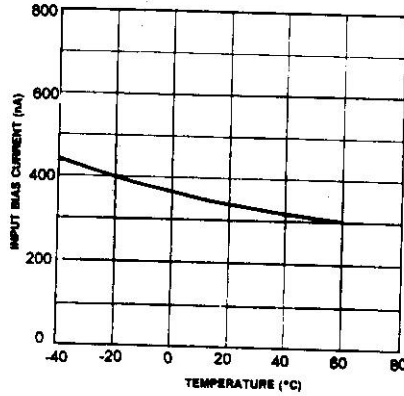


Fig. 5 Output Circuit Current

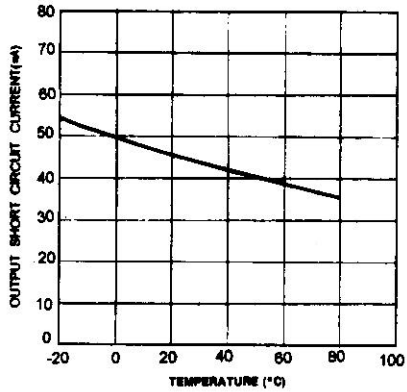
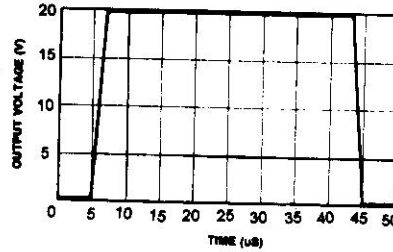


Fig. 6 Slew Rate



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