NE5532

Dual Operational Amplifier

Features

- Internal Frequency Compensation
- Slew Rate: 8V/μs
- Input Noise Voltage: $8nV/\sqrt{Hz}$ (fo = 30Hz)
- Full Power Bandwidth: 140KHz

Description

The NE5532 is a internally compensated dual low noise OP-AMP. The high small signal and power bandwidth provides superior performance in high quality AMP, all control circuits, and telephone applications.

8-DIP



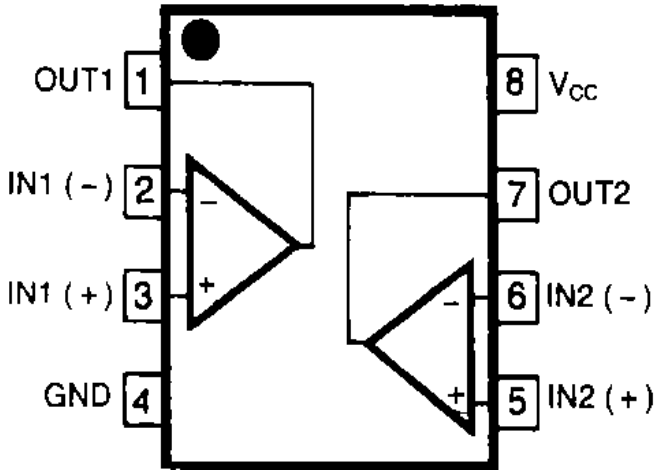
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8-SOP



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Internal Block Diagram



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Absolute Maximum Ratings

Parameter	Symbol	NE5532	Unit
Power Supply Voltage	V_{CC}	±22	V
Differential Input Voltage	$V_{(DIFF)}$	±13	V
Input Voltage	V_I	Supply Voltage	V
Power Dissipation, T_A = 25°C 8-DIP 8-SOP	P_D	 1100 500	mW
Operating Temperature Range	T_{OPR}	0 ~ + 70	°C

Thermal Data

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-Ambient Max. 8-DIP 8-SOP	Rθja	 110 250	°C/W

Electrical Characteristics

(V_{CC}=15V, V_{EE}= - 15V, T_A = 25°C)

Parameter	Symbol	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	$V_{I(R)}$	-	±12	±13	-	V
Common Mode Rejection Range	CMRR	T_A = 25 °C	70	100	-	dB
Power Supply Rejection Ratio	PSRR	T_A = 25 °C	80	100	-	dB
Output Voltage Swing	$V_{O(P-P)}$	$R_L \geq 600\Omega$	±12	±13	-	V
Input Resistance	R_I	T_A = 25 °C	30	300	-	KΩ
Short Circuit Current	I_{SC}	-	-	38	-	mA
Overshoot	OS	R_L =600Ω, C_L =100pF	-	10	20	%
Voltage Gain	G_V	f = 10KHz	2	2.2	-	V/mV
Gain Bandwidth Product	GBW	C_L =100pF, R_L = 600Ω	8	10	-	MHz
Slew Rate	SR	R_L =1K, C_L =100pF, R_L =600Ω	6	8.0	-	V/μs
Input Noise Voltage	e_N	f_O = 30Hz f_O = 1KHz	-	8.0 5.0	-	nV/$\sqrt{Hz}$

Typical Performance Characteristics

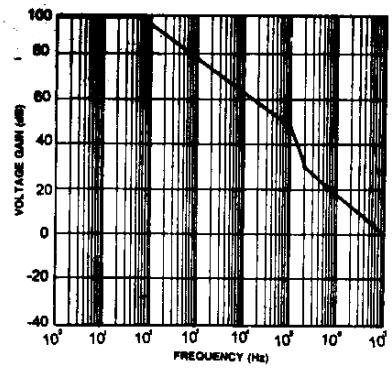


Figure 1. Open Loop Frequency Response

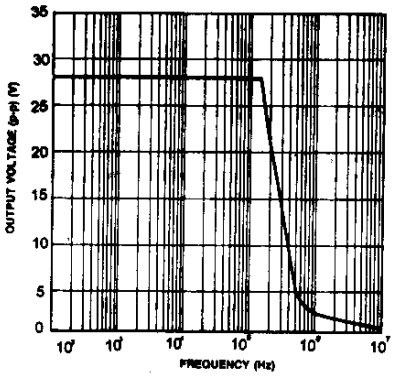


Figure 2. Large Signal Frequency Response

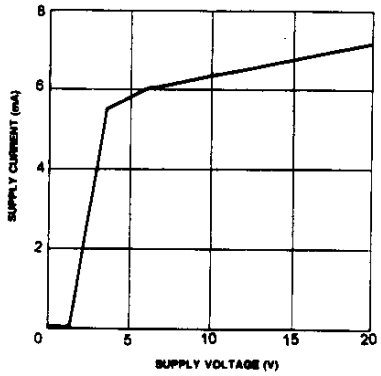


Figure 3. Supply Current vs Supply Voltage

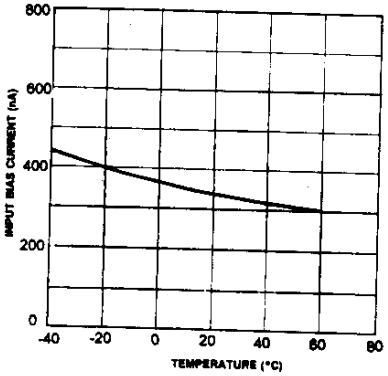


Figure 4. Input Bias Current vs Temperature

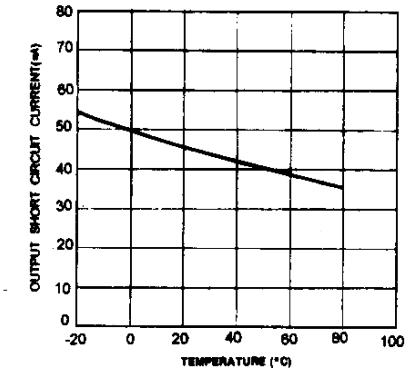


Figure 5. Output Circuit Current vs Temperature

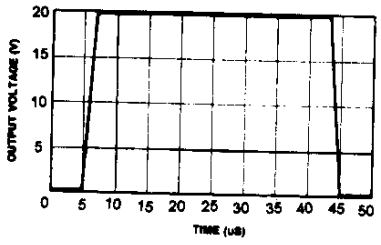


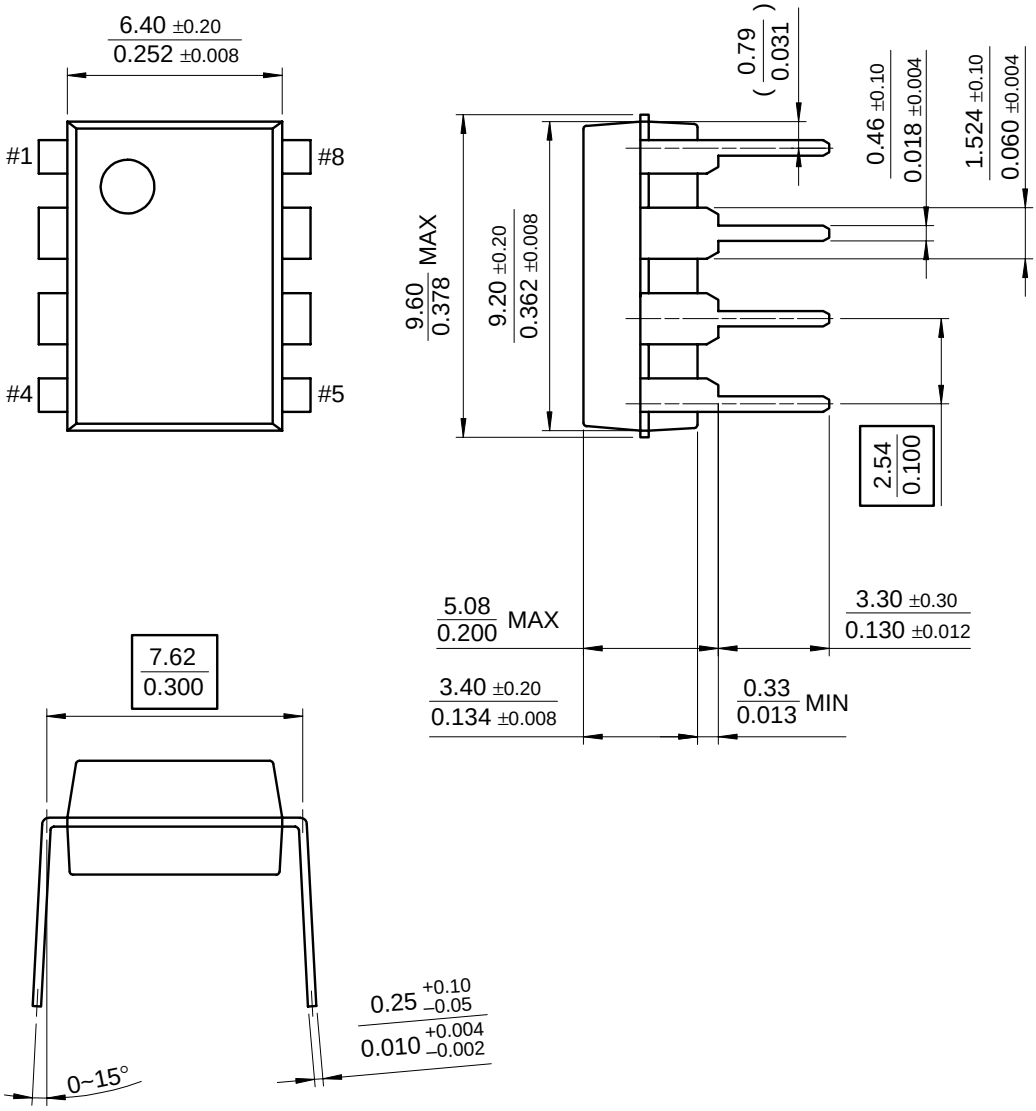
Figure 6. Slew Rate

Mechanical Dimensions

Package

Dimensions in millimeters

8-DIP

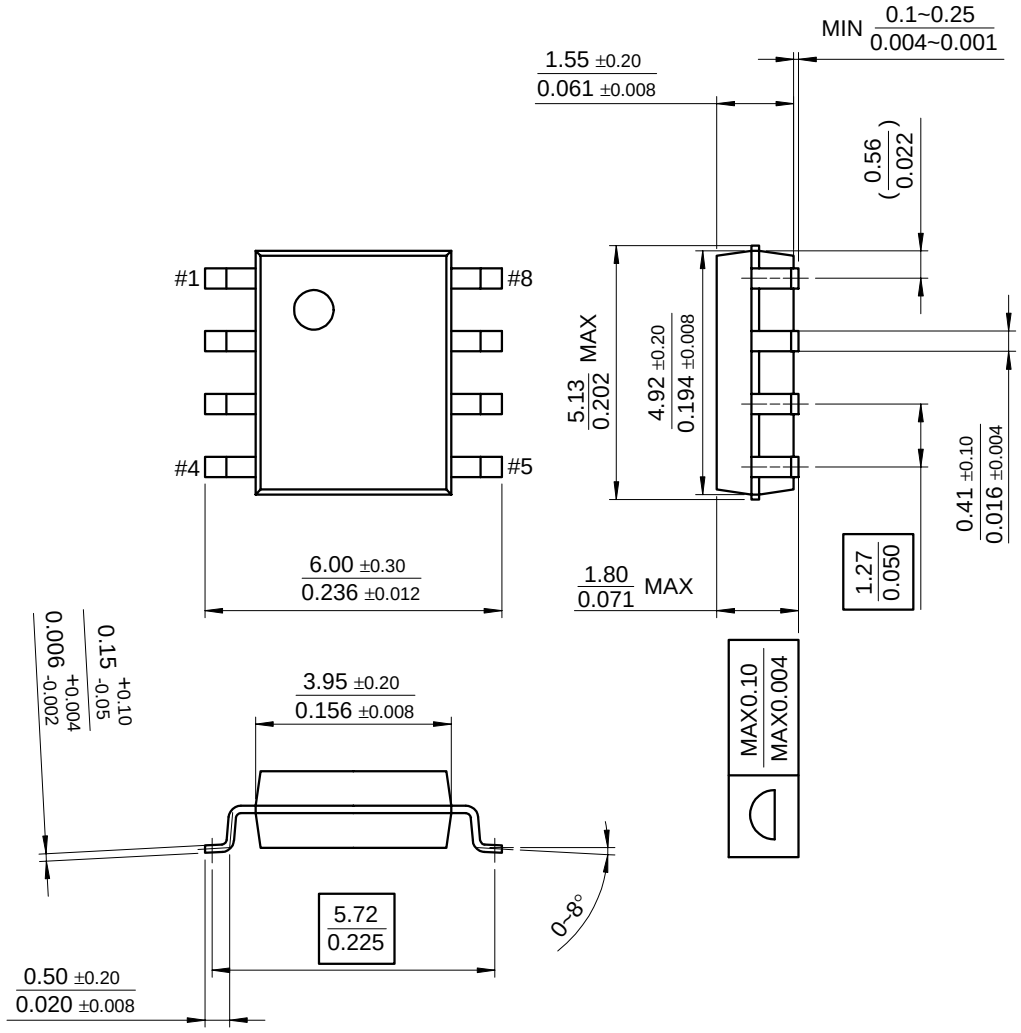


Mechanical Dimensions (Continued)

Package

Dimensions in millimeters

8-SOP



Ordering Information

Product Number	Package	Operating Temperature
NE5532N	8-DIP	0 ~ +70°C
NE5532D	8-SOP	

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