Dual operational amplifier

Description

- The NE5532 includes two independent, low-noise dual operational amplifiers with internal frequency compensation. It features high slew rate, low output noise, and is suitable for high-quality audio equipment, instrumentation, and control systems.
- The NE5532 is available in DIP8 or SOP8 package configurations.

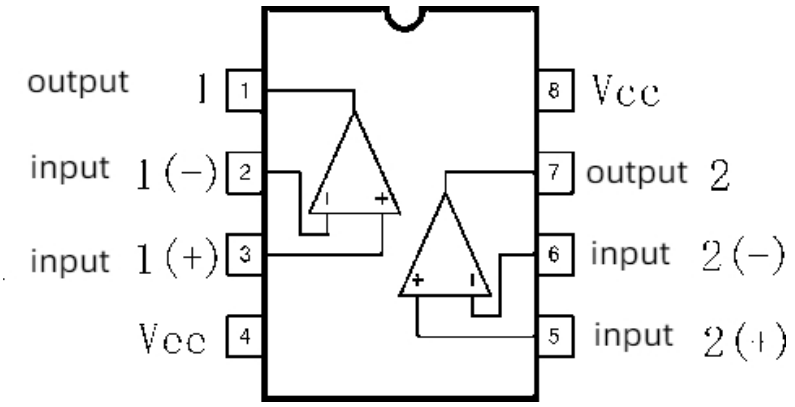
Features

- Internal frequency compensation
- High DC voltage gain (approximately 100dB)
- High slew rate （10V/us typ.）
- Input voltage noise （8nV/√Hz f_0=1kHz）

Ordering information

Part Number	Package	Packing	Packing Quantity
NE5532N	DIP8	tubing	2000 units per box
NE5532S	SOP8	taping	2500 units per box

Pinout diagram



DIP8/SOP8

Pin function symbol

Pin Number	Pin Name	Function	Pin Number	Pin Name	Function
1	OUT 1	output 1	5	IN 2(+)	input 2（+）
2	IN 1(-)	input 1（-）	6	IN 2(-)	input 2（-）
3	IN 1(+)	input 1（+）	7	OUT 2	output 2
4	Vee	Vee	8	Vcc	supply voltage

Maximum ratings（Absolute maximum ratings, unless otherwise specified，T_{amb}=25℃）

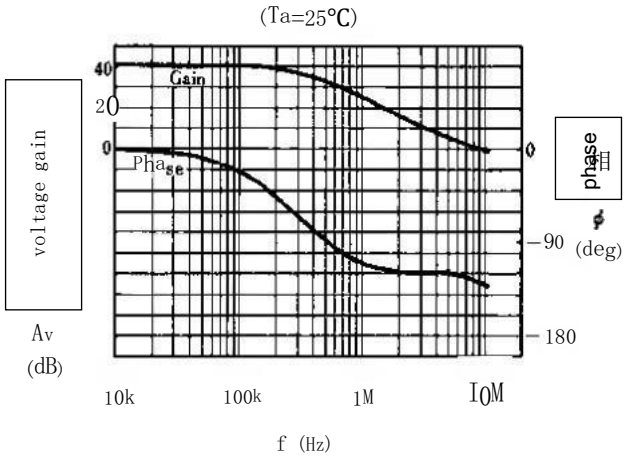
Symbol	Parameter	Value	Uint
V_{cc}	supply voltage	22	V
V_I	input voltage	15	V
T_{amb}	operating ambient temperature	0~+70	℃
T_{stg}	storage temperature	-65~+150	℃

Electrical characteristics （ Unless otherwise specified，T_{amb}=25℃,V_{cc}=15，V_{ee}=-15V）

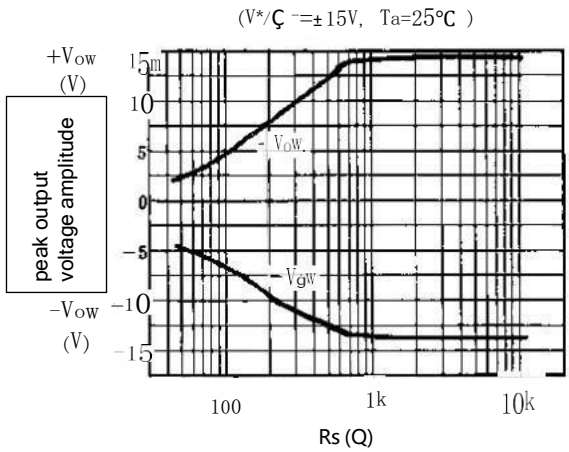
Symbol	Parameter	Text Condictions	Value			Uint
			Min	Typ	Max	
Icc	supply current			5.5	9.0	mA
VIO	input offset voltage	RS<10kΩ	-	0.5	5.0	mV
IIO	input offset current			5	200	nA
IBIAS	input bias current		-	30	500	nA
VI(R)	input common-mode voltage range		±12	±13	-	V
Gv	large-signal voltage gain	Vo (p-p) =±10V,RL<2kΩ	20	200	-	V/mV
Vo (p-p)	output voltage swing	RL>10kΩ	±13	±14	-	V
		RL>2kΩ	±12	±13	-	
CMRR	common-mode rejection ratio	RS<10kΩ	70	100	-	dB
PSRR	power supply rejection ratio	RS<10kΩ	76	100	-	dB
SR	slew rate		-	11	-	V/uS
GB	gain bandwidth product		-	10	-	MHz
En	gain bandwidth productgain bandwidth product	fo=1KHz	-	8	-	$nV/\sqrt{Hz}$
Cs	channel separation	fo=1KHz，Rs=5KΩ	-	110	-	dB

Typical operatingcharacteristics curve

Voltage Gain, Phase, And Frequency



The Maximum Output Voltage Amplitude And Load



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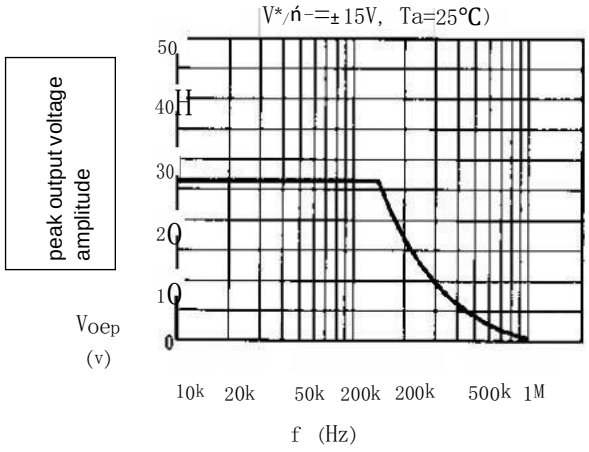
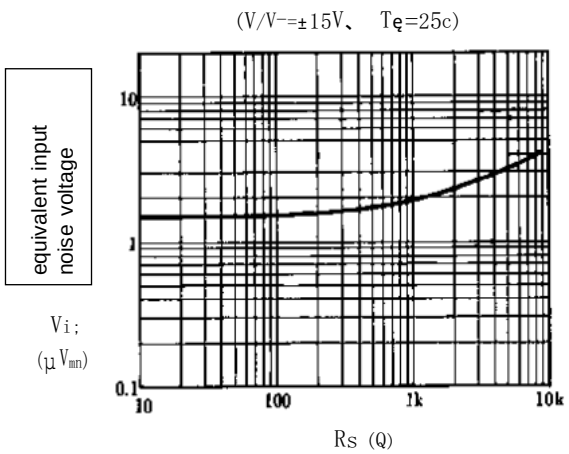
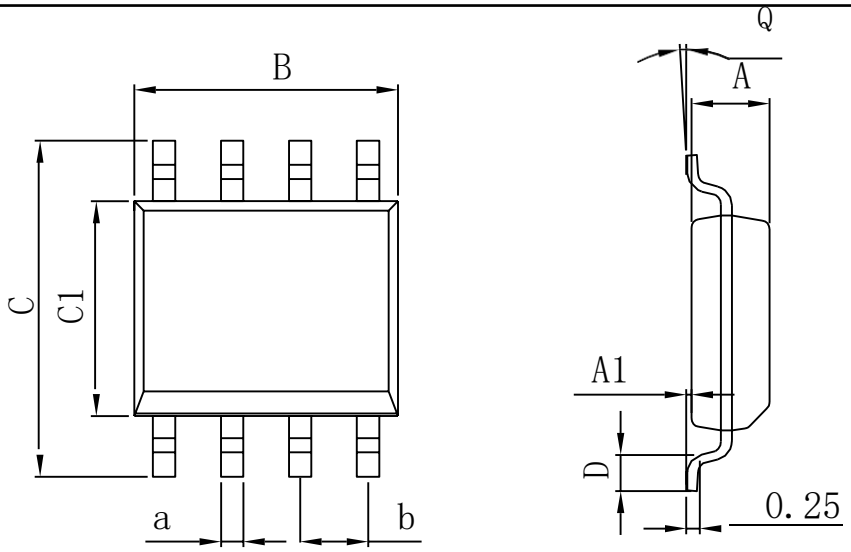


The equivalent input noise voltage and resistance



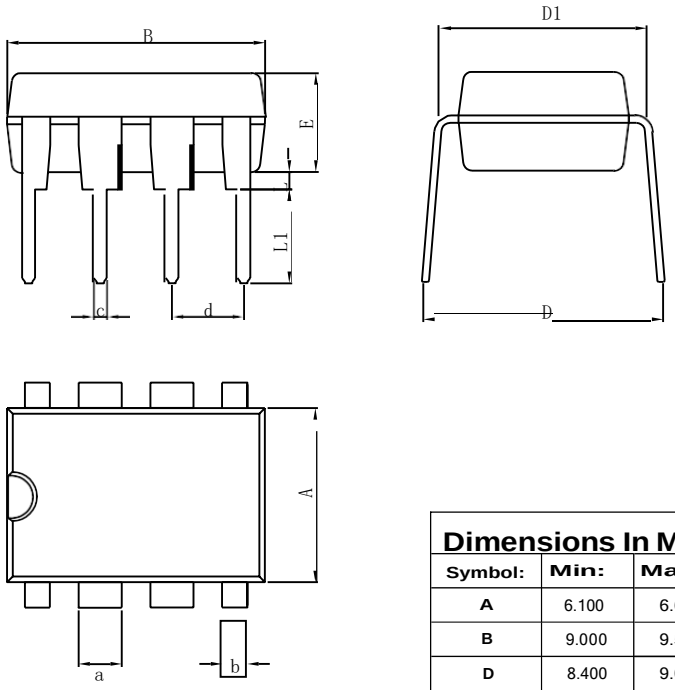
Package outline

SOP8



Dimensions In Millimeters					
Symbol:	Min:	Max:	Symbol:	Min:	Max:
A	1.225	1.570	D	0.400	0.950
A1	0.100	0.250	Q	0°	8°
B	4.800	5.100	a	0.420	TYP
C	5.800	6.250	b	1.270	TYP
C1	3.800	4.000			

DIP8



Dimensions In Millimeters					
Symbol:	Min:	Max:	Symbol:	Min:	Max:
A	6.100	6.680	L1	3.000	3.600
B	9.000	9.500	a	1.524 TYP	
D	8.400	9.000	b	0.889 TYP	
D1	7.420	7.820	c	0.457 TYP	
E	3.100	3.550	d	2.540 TYP	
L	0.500	0.700			