General Description

NE5532DR is the dual operational amplifier specially designed for improving the tone control, which is most suitable for the audio application. Featuring noiseless, higher gain bandwidth , high output current and low distortion ratio , and it is most suitable not only for acoustic electronic part of audio pre - amp and active filter, but also for the industrial measurement tools . It is also suitable for the head phone amp at higher output current . And further more , it can be applied for the handy type set operational amplifier of general purpose in application of low voltage single supply type which is properly biased of the input low voltage source .

Features

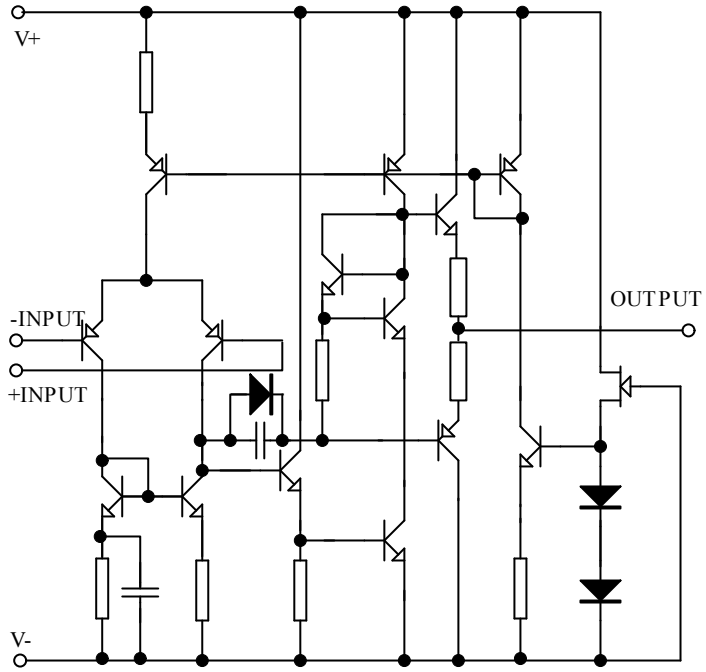
- Operating Voltage (2V ~ 18 V)
- Low Input Noise Voltage (0 . 8 Vrms Typ.)
- Wide Gain Bandwidth Product (1 5mhz Typ.)
- Low Distortion (0 . 0 0 0 5% Typ .)
- Slew Rate (5 V/ s Typ .)
- Package Outline
- Bipolar Technology

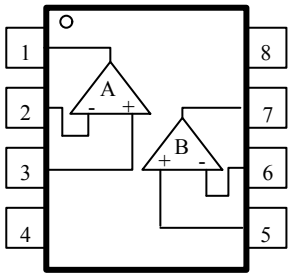
PackageInformation

Part NO.	Package Description	Package Marking	Package Option
NE5532DR	SOP-8		2500

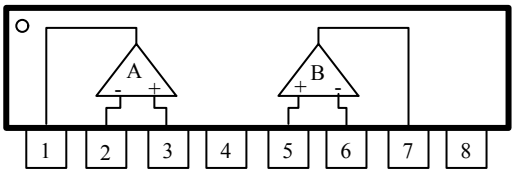
Notes： xxx represents the internal production number of the factory.

EquivalentCircui PinConfiguration





PIN FUNCTION
1 A OUTPUT
2 A -INPUT
3 A +INPUT
4 V-
5 B +INPUT
6 B -INPUT
7 B OUTPUT
8 V+



AbsoluteMaximumRatings(Ta=25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V+/V-	±18	V
Input Voltage	VIC	±18	V
Differential Input Voltage	VID	±36	V
Output Current	Ic	±50	mA
Operating Temperature Range	Tamb	-40~85	°C
Storage Temperature Range	Tstg	-65~125	°C

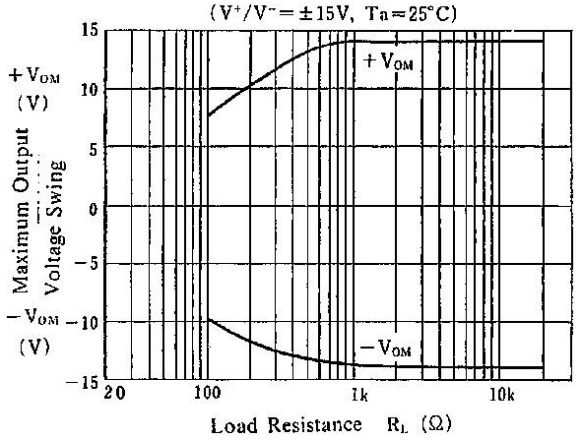
ElectricalCharacteristics

(Unlessotherwisespecified:Ta=25°C,V+/V-=±15V)

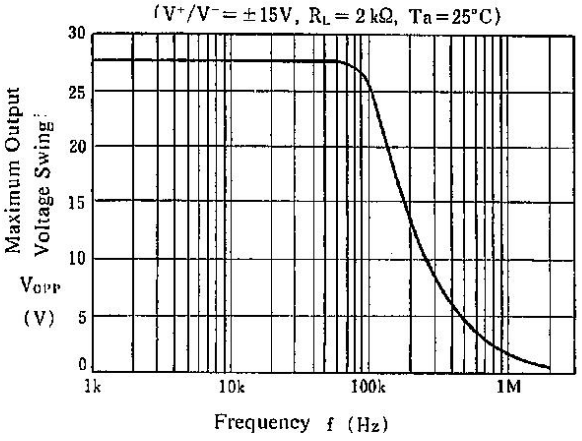
Parameter	Symbol	Testcondition	Min	Typ	Max	Unit
Input Offset Voltage	V_{IO}	Rs ≤ 10kΩ	-	0.3	3	mV
Input Offset Current	I_{IO}		-	5	200	nA
Input Bias Current	I_B		-	100	500	nA
Input Resistance	Rin		-	0.5	-	MΩ
Large Signal Voltage Gain	Av	R_L ≥ 2kΩ，Vo=±10V	90	110	-	dB
Output Voltage Swing	V_{OM}	R_L ≥ 2kΩ	±12	±13.5	-	V
Input Common Mode Voltage Range	V_{ICM}		±12	±13.5	-	V
Common Mode Rejection Ratio	CMR	Rs ≤ 10kΩ	80	110	-	dB
Supply Voltage Rejection Ratio	SVR	Rs ≤ 10kΩ	80	110	-	dB
Operating Current	Icc		-	6	9	mA
Slew Rate	SR	R_L ≥ 2kΩ	-	5	-	V/μs
Gain Bandwidth Product	GB	f=10kHz	-	15	-	MHz
Total Harmonic Distortion	THD	Av=20dB，Vo=5V，f=1kHz，R_L =2kΩ	-	0.0005	-	%
Input Noise Voltage1	V_{NI}	RIAA Rs=2.2kΩ，30kHzLPF	-	0.8	-	μVrms
Input Noise Voltage2	en	f=1kHz	-	5	-	nV/Hz

CharacteristicCurves

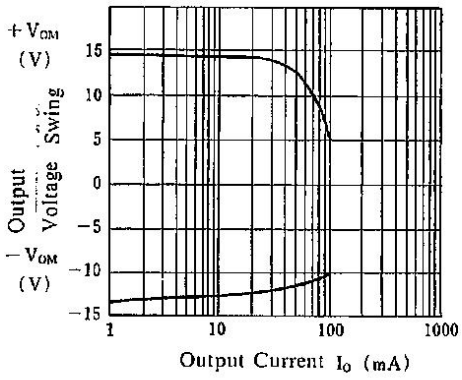
Maximum Output Voltage Swing vs. Load Resistance



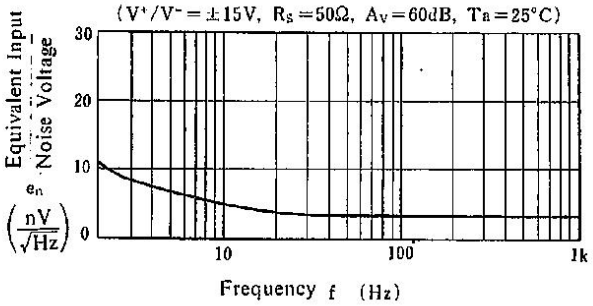
Maximum Output Voltage Swing vs. Frquency



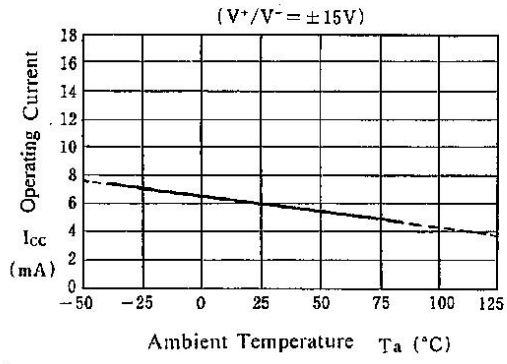
Output Voltage Swing vs. Output Current



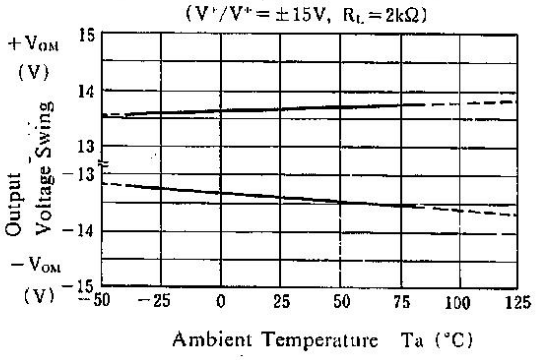
Equivalent Input Noise Voltage vs. Frequency



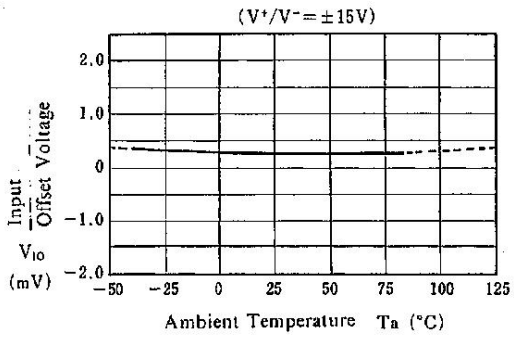
Operating Current vs. Temperature



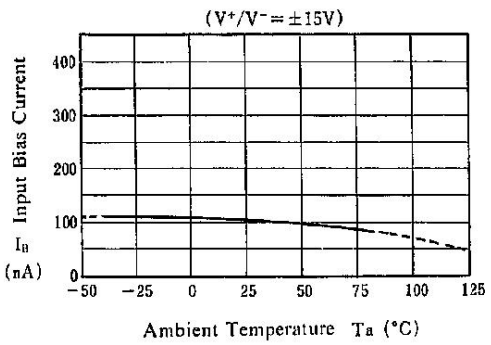
Output Voltage Swing vs. Temperature



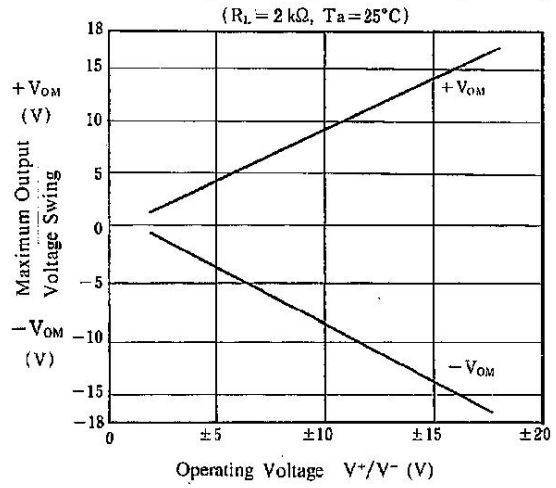
Input Offset Voltage vs. Temperature



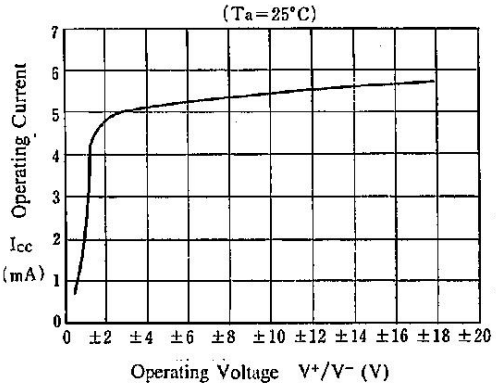
Input Bias Current vs. Temperature



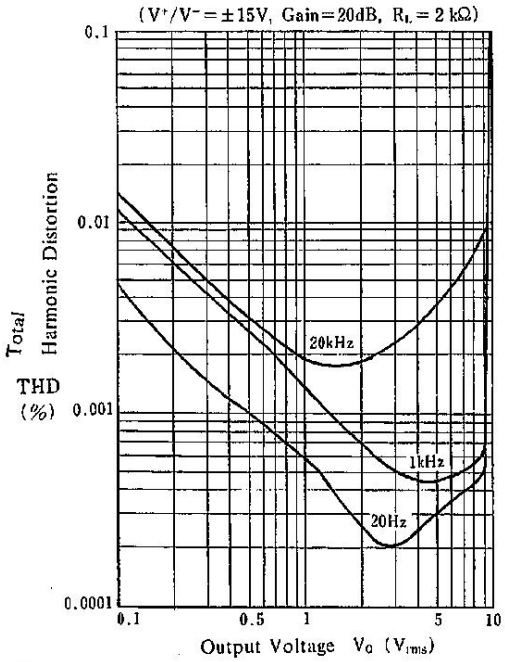
Maximum Output Voltage Swing vs. Operating Voltage



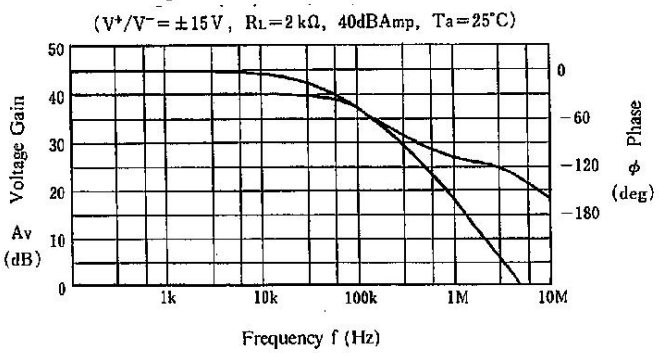
Operating Current vs. Operating Voltage



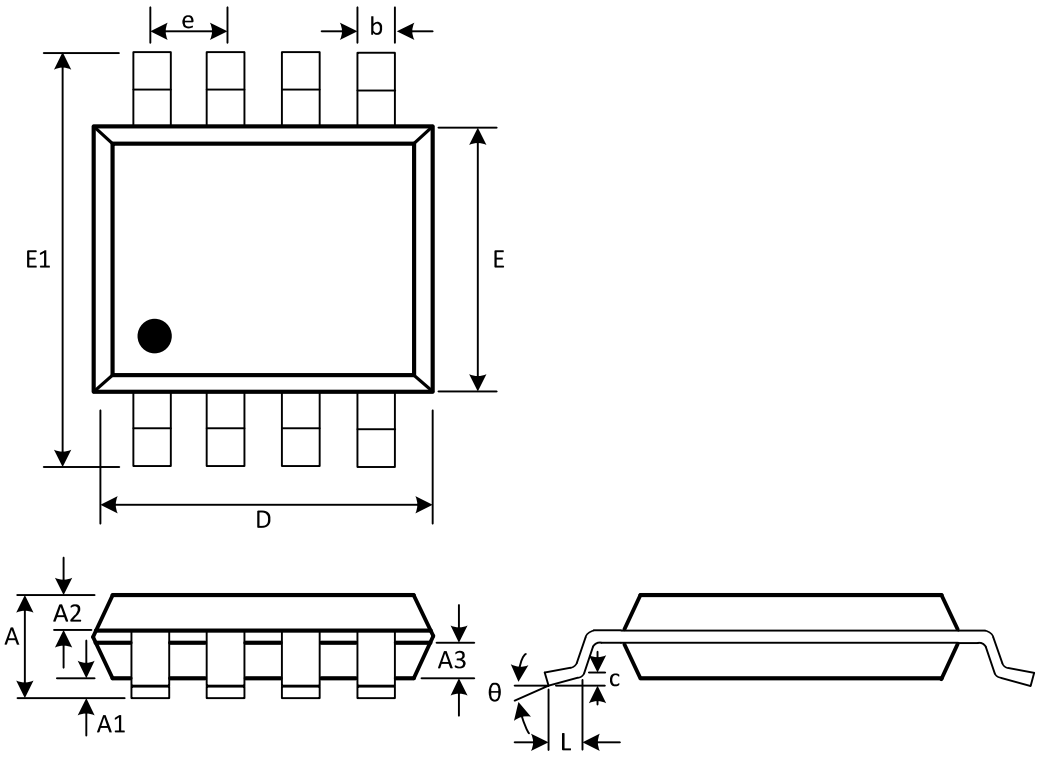
Total Harmonic Distortion vs. Output Voltage



Voltage Gain, Phase vs. Frequency



SOP-8



(Unit: mm)

Symbol	Min	Max
A	1.300	1.600
A1	0.050	0.200
A2	0.550	0.650
A3	0.550	0.650
b	0.356	0.456
c	0.203	0.233
D	4.800	5.000
e	1.270(BSC)	
E	3.800	4.000
E1	5.800	6.200
L	0.400	0.800
θ	0°	8°