



Product Specification

XBLW NE5532

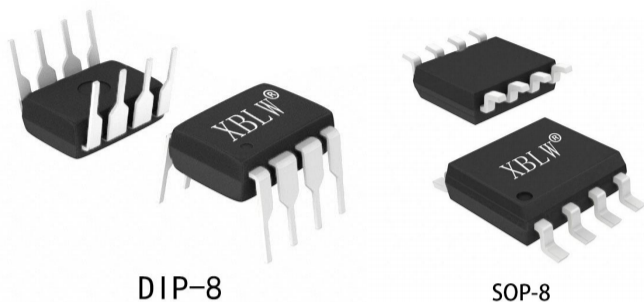
High-performance Low-noise Dual Operational Amplifier

WEB | www.xinboleic.com



Descriptions

The NE5532 is a high-performance, low-noise operational amplifier with twin channels. It outperforms most typical operational amplifiers in terms of noise performance, output drive capability, and small-signal and power bandwidths. As a result, the device is particularly well-suited for use in high-quality and professional audio equipment, instrumentation and control circuits, and telephone channel amplifiers.



Feature

- DC Voltage Gain: 50000
- AC Voltage Gain: 2200Hz--10KHz
- Power Bandwidth: 140KHz
- Slew Rate: 7V/μs
- Supply Power Range: ±3V~±20V
- Unit-Gain Compensation

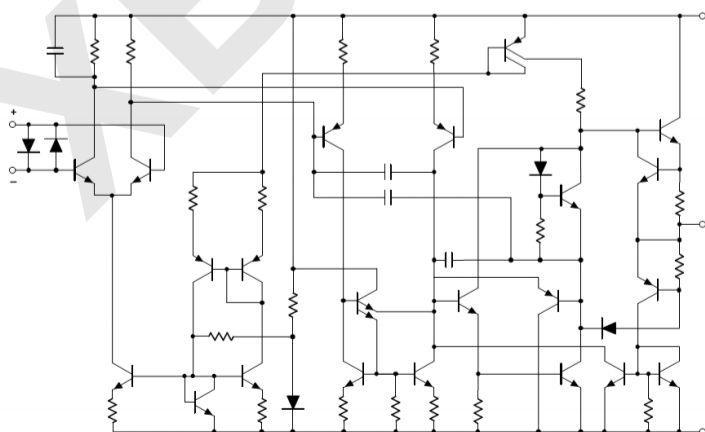
Applications

- AV Receivers
- Embedded PCs
- Netbooks
- Video Broadcasting and Infrastructure Scalable Platforms
- DVD Recorders and Players
- Multichannel Video Transcoders
- Pro Audio Mixers

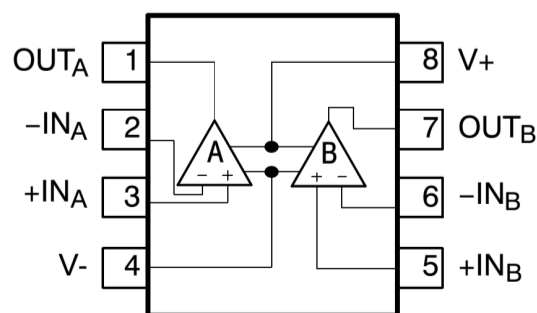
Ordering Information

Product Model	Package Type	Marking	Packing	Packing Qty
XBLW NE5532N	DIP-8	NE5532N	Tube	2000pcs/Box
XBLW NE5532DTR	SOP-8	NE5532	Tape	2500pcs/Reel

FUNCTIONAL BLOCK DIAGRAM



PINS DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Tamb=25°C, unless otherwise specified.

Symbol	Parameter		Value	Unit
V _S	Supply Voltage		±22	V
V _{IN}	Input Voltage,		±V _S	V
V _{DIFF}	Differential Input Voltage		±0.5	V
Tamb	Temperature Ambient		0 to 70	°C
Tstg	Storage Temperature		-65 to 150	°C
T _j	Operating Virtual-Junction Temperature		150	°C
P _D	Maximum Power Dissipation	SOP Package	780	mW
	Tamb=25 °C	DIP Package	1200	mW
T _{slid}	Welding Temperature(Maximum In10s)		230	°C

DC ELECTRICAL CHARACTERISTICS

Tamb = 25°C; V_S = ±15 V, unless otherwise specified.

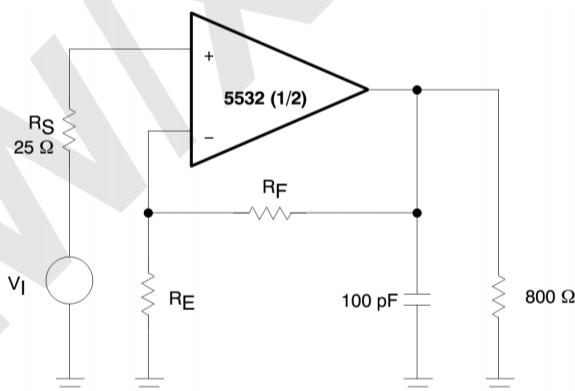
Characteristics	Symbol	Test Conditions	Min	Typ.	Max.	Unit
Input Offset Voltage	V _{OS}			0.5	4.0	mV
Input Offset Current	I _{OS}			10	150	nA
Input Bias Current	I _B			300	800	nA
Quiescent Current	I _{CC}			8.0	16	mA
Common-Mode Input-Voltage Range	V _{CM}		±12	±13		V
Common-Mode Rejection Ratio	CMRR		70	100		dB
Supply-Voltage Rejection Ratio	PSRR			10	100	uV/V
Large-Signal Gain	A _V	R _L ≥2.0KΩ; V _O =±10V	25	100		V/mv
		R _L ≥600Ω; V _O =±10V	15	50		
Output Swing Voltage	V _{OUT}		±12	±13		V
		R _L ≥600Ω; V _S =±18V	±15	±16		
		R _L ≥2.0KΩ	±13	±13.5		
Input Resistance	R _{IN}		30	200		KΩ
Output Short-Circuit Current	I _{SC}		10	50	60	mA

AC ELECTRICAL CHARACTERISTICS

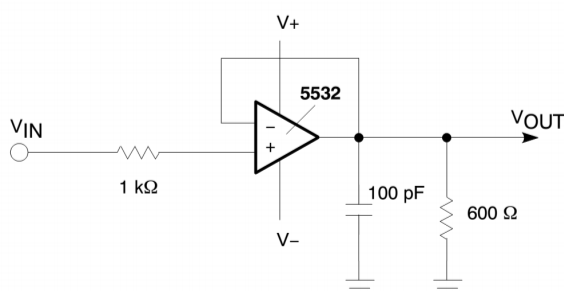
Tamb= 25 °C; VS = ±15 V, unless otherwise specified.

Characteristics	Symbol	Test Conditions	Min	Typ.	Max.	Unit
Output Resistance	R _{OUT}	AV =30dB close loop f=10KHz R _L =600 Ω		0.3		Ω
Overshoot Factor	-	Vin=100mVpp C _L =100pF; R _L =600 Ω		10	0	%
Closed Loop Voltage Gain	A _V	f=10KHz		2.2		V/mV
Gain Bandwidth Product	GBW	CL =100pF; R _L =600 Ω		10		M/Hz
Slew Rate	SR	-		7.0		V/uS
Supply Power Bandwidth	-	V _{OUT} =±10V		140		KHZ
		V _{OUT} =±14V; R _L =600 Ω		100		
Input Noise Voltage	V _{NOISE}	f _o =30HZ		8.0		nV/√ Hz
		f _o =1.0KHz		5.0		
Input Noise Current	I _{NOISE}	f _o =30Hz		2.7		pA/√ HZ
		f _o =1.0KHz		0.7		
Channel Separation	-	f _o =1.0KHz R _S =5.0K Ω		110		dB

TEST CIRCUIT



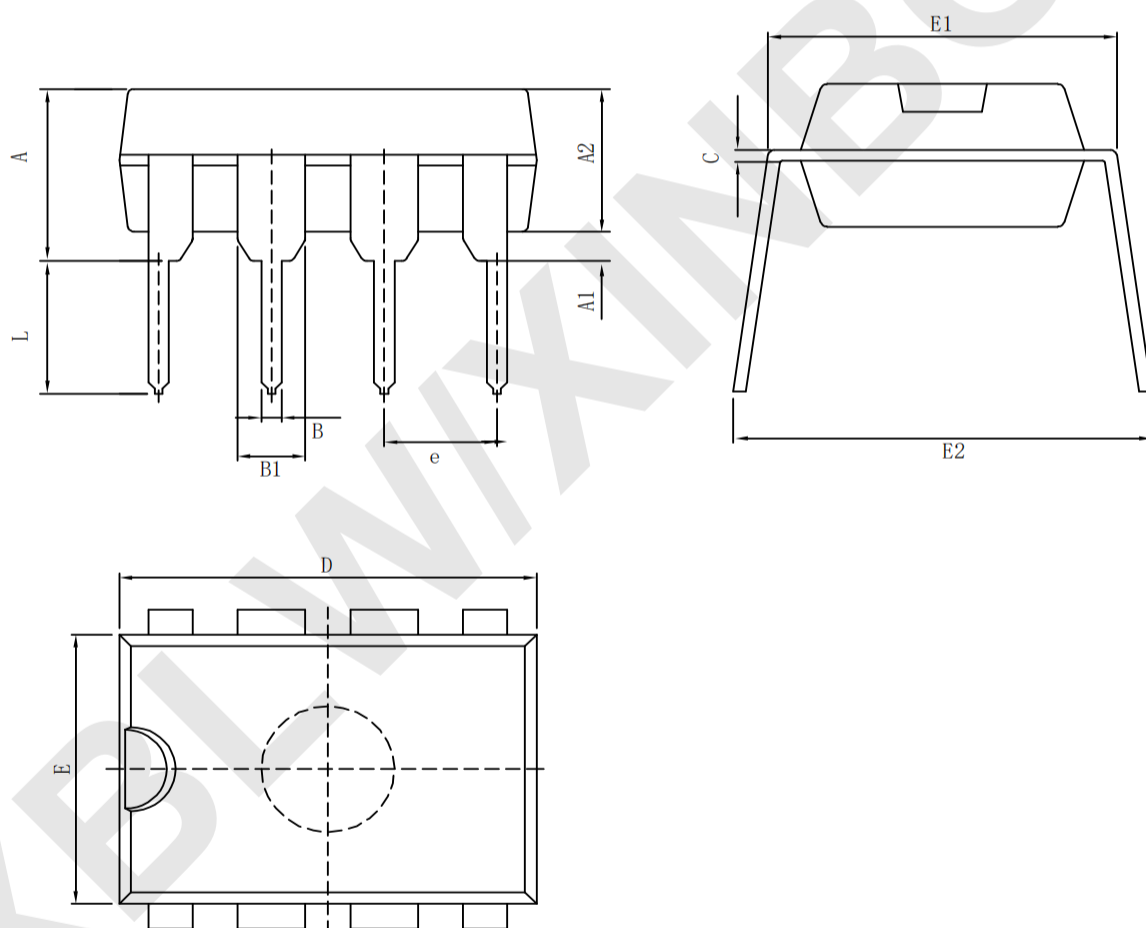
Closed-loop frequency response



Package Information

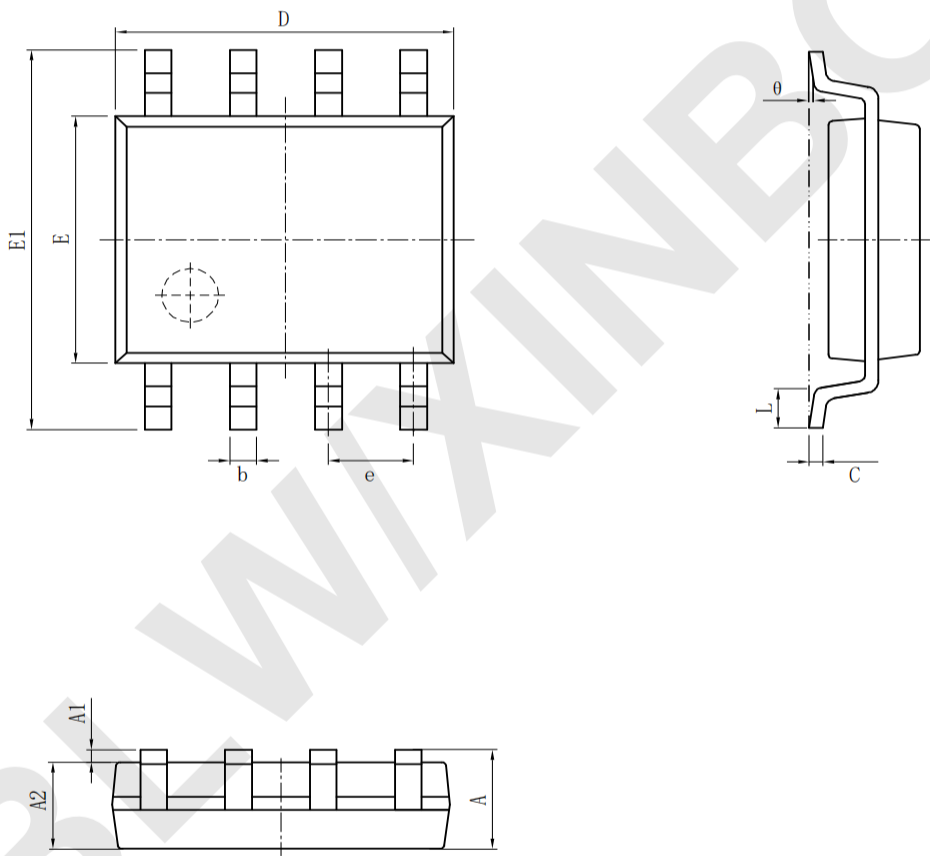
• DIP-8

Symbol	Size	Dimensions In Millimeters		Symbol	Size	Dimensions In Inches	
		Min(mm)	Max (mm)			Min(in)	Max(in)
A		3.710	4.310	A		0.146	0.170
A1		0.510		A1		0.020	
A2		3.200	3.600	A2		0.126	0.142
B		0.380	0.570	B		0.015	0.022
B1		1.524 (BSC)		B1		0.060 (BSC)	
C		0.204	0.360	C		0.008	0.014
D		9.000	9.400	D		0.354	0.370
E		6.200	6.600	E		0.244	0.260
E1		7.320	7.920	E1		0.288	0.312
e		2.540 (BSC)		e		0.100 (BSC)	
L		3.000	3.600	L		0.118	0.142
E2		8.400	9.000	E2		0.331	0.354



• SOP-8

Size Symbol	Dimensions In Millimeters		Size Symbol	Dimensions In Inches	
	Min (mm)	Max (mm)		Min (in)	Max (in)
A	1.350	1.750	A	0.053	0.069
A1	0.100	0.250	A1	0.004	0.010
A2	1.350	1.550	A2	0.053	0.061
b	0.330	0.510	b	0.013	0.020
c	0.170	0.250	c	0.006	0.010
D	4.700	5.100	D	0.185	0.200
E	3.800	4.000	E	0.150	0.157
E1	5.800	6.200	E1	0.228	0.224
e	1.270 (BSC)		e	0.050 (BSC)	
L	0.400	1.270	L	0.016	0.050
θ	0°	8°	θ	0°	8°



Statement:

- XBLW reserves the right to modify the product manual without prior notice! Before placing an order, customers need to confirm whether the obtained information is the latest version and verify the completeness of the relevant information.
- Any semi-guide product is subject to failure or malfunction under specified conditions. It is the buyer's responsibility to comply with safety standards when using XBLW products for system design and whole machine manufacturing. And take the appropriate safety measures to avoid the potential in the risk of loss of personal injury or loss of property situation!
- XBLW products have not been licensed for life support, military, and aerospace applications, and therefore XBLW is not responsible for any consequences arising from the use of this product in these areas.
- If any or all XBLW products (including technical data, services) described or contained in this document are subject to any applicable local export control laws and regulations, they may not be exported without an export license from the relevant authorities in accordance with such laws.
- The specifications of any and all XBLW products described or contained in this document specify the performance, characteristics, and functionality of said products in their standalone state, but do not guarantee the performance, characteristics, and functionality of said products installed in Customer's products or equipment. In order to verify symptoms and conditions that cannot be evaluated in a standalone device, the Customer should ultimately evaluate and test the device installed in the Customer's product device.
- XBLW documentation is only allowed to be copied without any alteration of the content and with the relevant authorization. XBLW assumes no responsibility or liability for altered documents.
- XBLW is committed to becoming the preferred semiconductor brand for customers, and XBLW will strive to provide customers with better performance and better quality products.