



Dual Low Noise Operational Amplifiers

Description

SKI5532 is a dual operational amplifier specifically designed for improved tone control, making it ideal for audio applications.

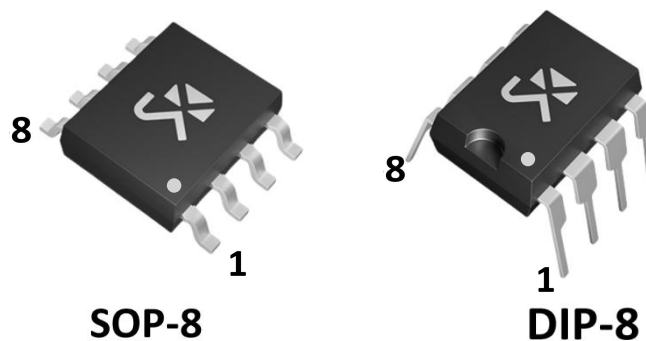
SKI5532 features low noise, a wider gain bandwidth, high output current and a low distortion ratio. Not only is it most suitable for acoustic electronic components such as audio preamplifier and active filters, but it also fits industrial measurement tools and headphone amplifiers requiring higher output current.

SKI5532 is available in SOP-8 and DIP-8 package types.

Features

- Low input noise voltage
- Low distortion ratio: approximately 0.0005%
- Internal ESD protection
- Slew rate: $9\text{V}/\mu\text{S}$
- Unit gain bandwidth product: 15MHz

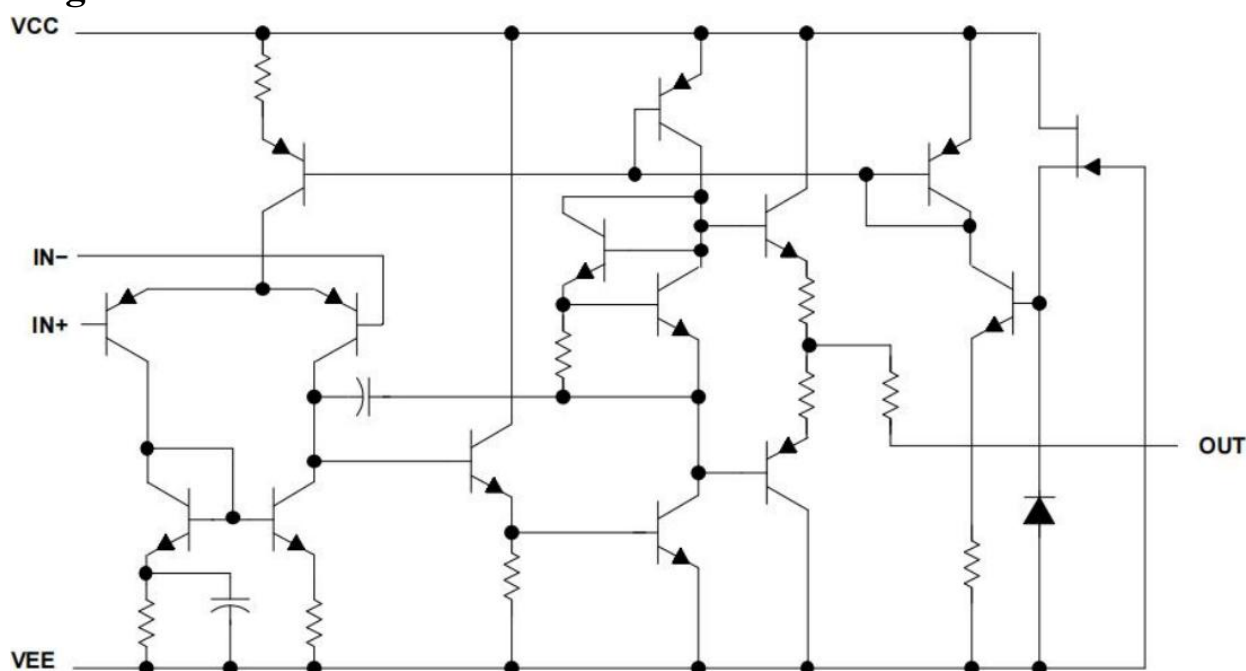
Package Outline Drawing



Applications

- Active Filters
- Compensation Amplifiers
- Audio Preamplifiers
- Headphone Amplifiers
- Low Voltage Handheld Electronic Instruments

Block Diagram





SKI5532

Ordering Information

Type	Marking	Package
SKI5532-D8	5532	DIP-8
SKI5532-P8	5532	SOP-8

Pin Description

Pin Number	Pin Name	I/O	Description	
1	1OUT	O	Channel 1 Output	
2	1IN-	I	Channel 1 Inverting Input	
3	1IN+	I	Channel 1 Non-Inverting Input	
4	V _{EE}	P	Negative Power Supply	
5	2IN+	I	Channel 2 Non-Inverting Input	
6	2IN-	I	Channel 2 Inverting Input	
7	2OUT	O	Channel 2 Output	
8	V _{CC}	P	Positive Power Supply	

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Supply Voltage	V _{CC}	±22	V
Differential Input Voltage	V _{ID}	±20	V
Maximum Operating Junction Temperature	T _J	150	°C
Operating Ambient Temperature	T _A	-20~+85	°C
Storage Temperature	T _{STG}	-65~+150	°C
Lead Temperature(Soldering , 10 s)	T _W	260	°C

Electrical Characteristics(T_A=25°C, V_{CC}=15V,V_{EE}=-15V unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Supply Current(per channel)	I _{CC}	V _O =0V,R _L =∞	-	6	-	mA
Input Offset Voltage	V _{IO}	V _O =0V	-	±0.3	±3	mV
Input Offset Current	I _{IO}	V _O =0V	-	-	±200	nA
Input Bias Current	I _B	V _O =0V	-	-	±500	nA
Input Common-mode Voltage	V _{ICM}		±12	±13	-	V
Output Voltage swing	V _{OM}	R _L =10KΩ	±12	±14	-	V
		R _L =2KΩ	±10	±13	-	
Output Current	I _{SOURCE}		80	-	120	mA
	I _{SINK}		-150	-	-120	mA
Open-Loop Voltage Gain	A _{OL}	V _O =±10V,R _L <2KΩ	-	100	-	V/mV
Common Mode Rejection Ratio	CMRR		-	100	-	dB
Power Supply Rejection Ratio	PSRR		-	100	-	dB
Gain Bandwidth Product	GBWP		-	15	-	MHz
Slew Rate	S _R		-	9	-	V/uS



Typical Characteristics

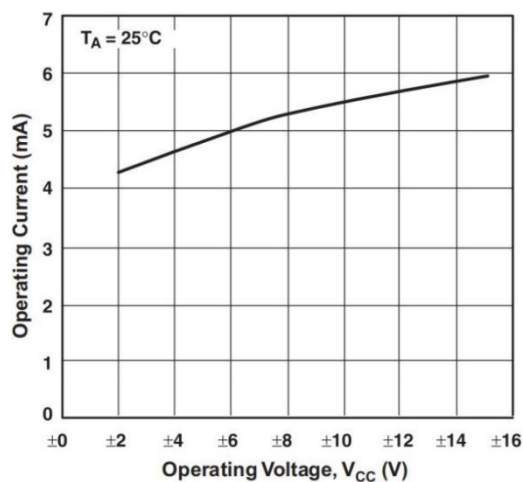


Fig 1. Operating Current vs Operating Voltage

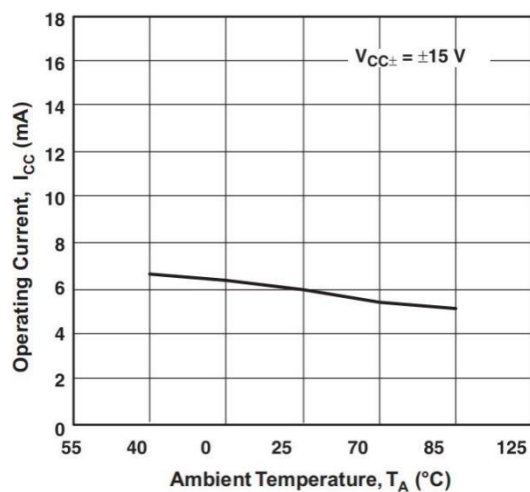


Fig 2. Operating Current vs Ambient Temperature

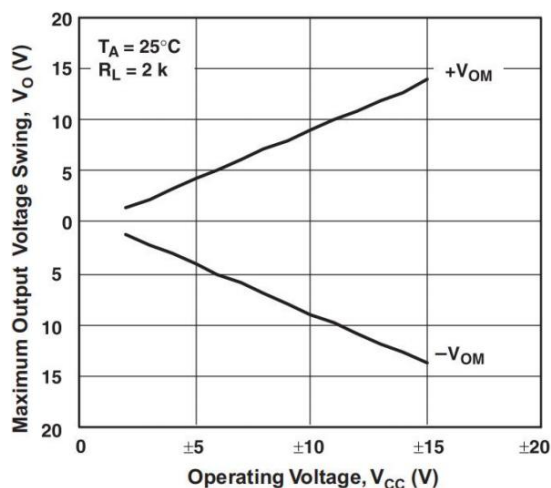


Fig 3. Maximum Output Voltage Swing vs Operating voltage

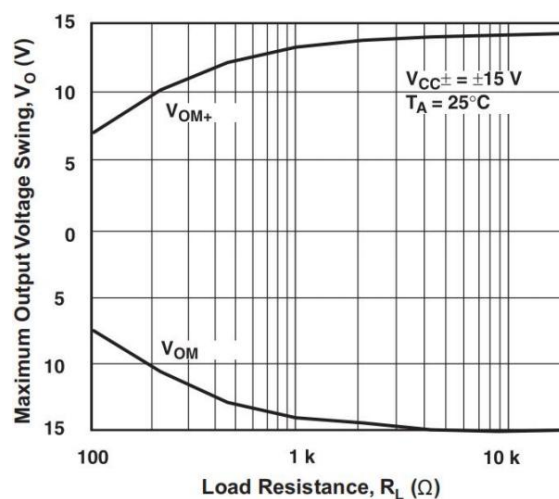


Fig 4. Maximum Output Voltage Swing vs Load Resistance

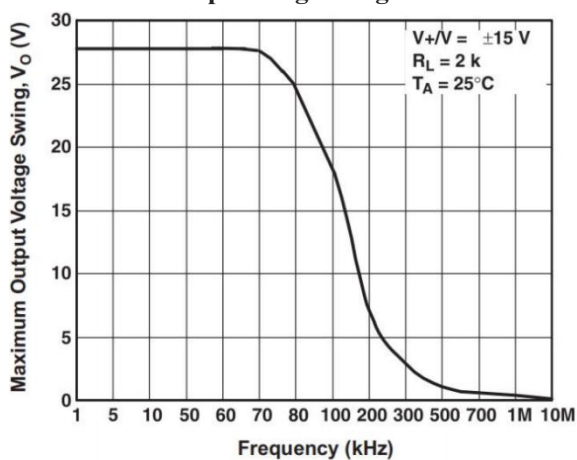


Fig 5. Maximum Output Voltage Swing vs Frequency

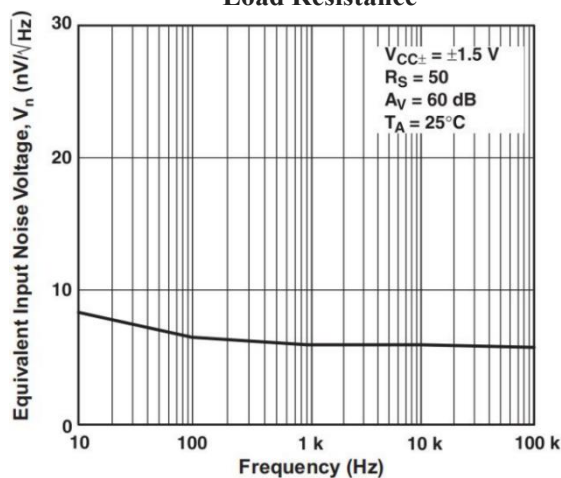


Fig 6. Equivalent Input Noise Voltage vs Frequency

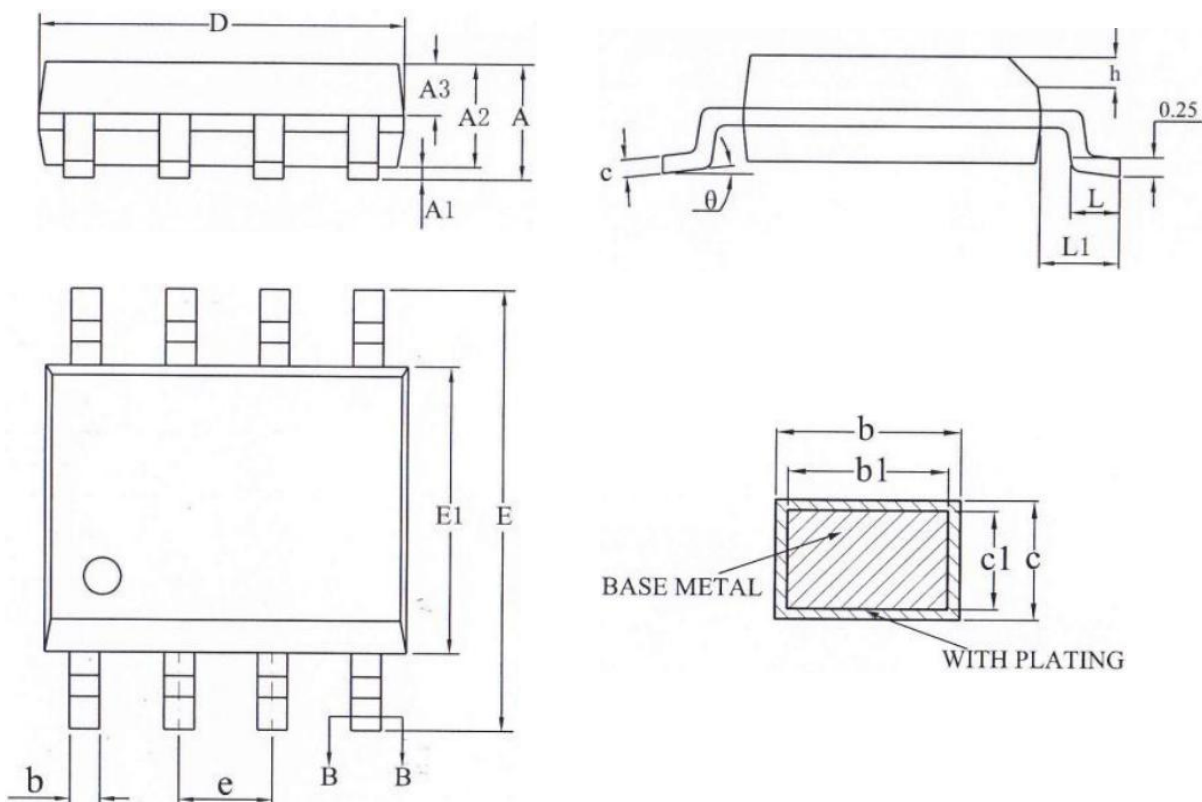


SKI5532

Package Information

SOP-8

Dimensions in mm



Symbol	Dimensions In Millimeters			Symbol	Dimensions In Millimeters		
	Min	Nom	Max		Min	Nom	Max
A	-	-	1.75	D	4.80	4.90	5.00
A1	0.10	-	0.225	E	5.80	6.00	6.20
A2	1.30	1.40	1.50	E1	3.80	3.90	4.00
A3	0.60	0.65	0.70	e	1.27 BSC		
b	0.39	-	0.47	h	0.25	-	0.50
b1	0.38	0.41	0.44	L	0.50	-	0.80
c	0.20	-	0.24	L1	1.05 (REF)		
c1	0.19	0.20	0.21	θ	0°	-	8°

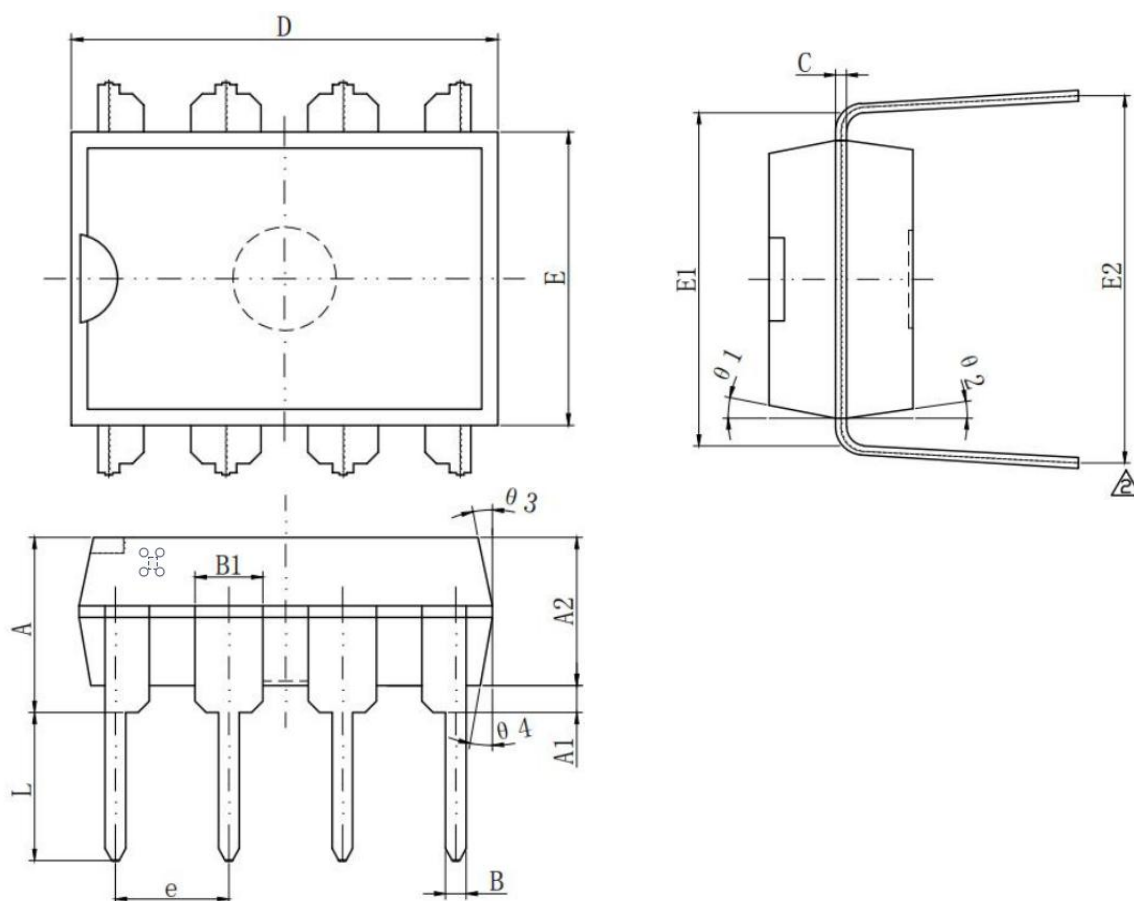


SKI5532

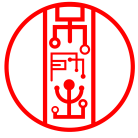
Package Information

DIP-8

Dimensions in mm



Symbol	Dimensions In Millimeters			Symbol	Dimensions In Millimeters		
	Min	Nom	Max		Min	Nom	Max
A	3.75	3.90	4.15	E1	7.35	7.62	7.85
A1	0.60	-	-	E2	8.00	8.40	8.80
A2	3.15	3.30	3.40	e	2.54 (BSC)		
B	0.38	0.46	0.56	L	3.00	3.30	3.60
B1	1.52 (BSC)			theta 1	10°	-	14°
C	0.20	0.25	0.34	theta 2	8°	-	12°
D	9.00	9.25	9.40	theta 3	10°	-	14°
E	6.20	6.35	6.50	theta 4	8°	-	12°



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