



Supreme Sound Opamp V7 Datasheet

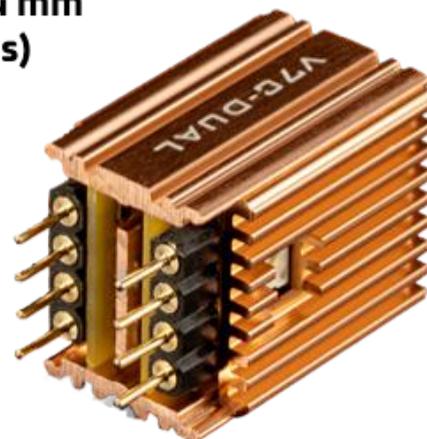
The Supreme Sound V7 Operational Amplifier (SS Opamp) is the product of two years of intensive research and development, leveraging a legacy of 20 years of expertise in audio technology. This specialised, purpose-built operational amplifier is designed with a singular focus on delivering superior-quality analog audio amplification. In contrast to conventional integrated circuit operational amplifier designs, which prioritise high open-loop gain, Burson's approach for the SS Opamp emphasises minimising open-loop distortion, reducing noise levels, decreasing drift, and achieving low offset. Furthermore, the SS Opamp distinguishes itself with an expanded bandwidth and versatile power supply compatibility, key features for outstanding analog audio amplification.

The design's input stage features a pair of meticulously matched field-effect transistors, each undergoing a rigorous two-stage screening process to ensure optimal compatibility and performance. Such precision is essential for consistent, high-quality amplification. The amplification core of the SS Opamp utilises a current mirror configuration, moving away from traditional voltage amplification methods. This design choice, combined with minimising the current limiting resistor's value, effectively reduces the RC parameter of the circuit, thereby broadening the frequency response.

Enhancing its capabilities further, the SS Opamp includes another set of matched transistors in the emitter follower stage, facilitating a high drive current and low output impedance. This configuration renders the SS Opamp highly adaptable and suitable for various audio applications, providing robust driving capabilities with low output impedance.

**Height: 20 mm
(0.78 inches)**

**Width: 15.4 mm
(0.60 inches)**



**Depth: 13.4 mm
(0.52 inches)**

Dual: 5.7g (0.2 Ounce) Single: 4.5g (0.26 Ounce)

		Measurement			
Absolute Maximum Ratings		Min		Typ	Max
Supply Voltage		+/-4 V		+/-15V	+/- 16V
Operating Ambient Temperature		-25°C			60°C
Storage temperature range		-65°C			80°C
DC Characteristics					
DC Characteristics		Conditions	Testing Temperature 25°C Supply Voltage +/-15V		
Quiescent Current (mA)				Single 10mA Dual 20mA	
Input offset voltage (mV)		$R_s = 0$	0.05 mV	0.1 mV	
Input offset current (mA)			0.08 mA	0.12 mA	0.15 mA
Input BIAS current (μ A)			120 μ A	150 μ A	300 μ A
Common-Mode Rejection Ratio				100 dB	
Power Supply Rejection Ratio				15 μ V/V	
AC Characteristics					
AC Characteristics		Conditions	Testing Temperature 25°C Supply Voltage +/-12V		
Open-loop gain (dB)				66 dB	
Open-loop bandwidth (dB)		$R_L = 600\Omega$		48 KHz	
Gain Bandwidth Product (MHz)		@ 100KHZ		55 MHz	
Slew Rate (V/ μ S)		$f = 10\text{kHz}; R_S = 2\text{K}\Omega$	35V/ μ S		5V/ μ S
Input Resistant (KOhm)				50M Ω	
Crosstalk distortion (dB)(Dual Opamp)		$f = 1\text{kHz}; R_S = 600\Omega$		>96dB	
Total Harmonic Distortion (%) 1Khz @ 2V output		1Khz @ 2V output; $R_L = 600\Omega$		0.018%	
Output Impedance (Ohm)		$A_V = 30\text{dB}$ Closed-loop $f = 10\text{kHz}, R_L = 600\Omega$		0.40 Ω	