

Burson Supreme Sound Opamp Datasheet

The Burson Supreme Sound Opamp (SS Opamp) is a specialized, single-purpose opamp for high quality analogue audio amplification.

Unlike the general-purpose IC opamp designs which focus on high open loop gain, Burson aimed to achieve low open-loop distortion, low noise, low drift and low offset. The Supreme Sound Opamp also exhibited a wider bandwidth and wide power supply range. These qualities are essential in high quality analog audio amplification.

The input stage features a pair of carefully matched field-effect transistors. Each pair of transistors went through two stages of screening to ensure best possible matching. The main amplification section employed a current mirror configuration instead of the conventional voltage amplification. By keeping the current limiting resistor to a minimum value we minimised RC parameter of the circuitry, and hence achieved a wider frequency response.

Another pair of matched output transistors is coupling with the emitter follower stage. This arrangement ensured high driving current and low output impedance, which made the SS Opamp suitable for a wide range of audio applications.

		Measurement		
Absolute Maximum Ratings		Min	Tpy	Max
Supply Voltage		± 5 V		± 20 V
Operating Ambient Temperature		$- 25^{\circ}$ C		45° C
Storage temperature range		$- 65^{\circ}$ C		65° C
DC Characteristics				
		Conditions	Testing Temperature 25° C Supply Voltage ± 12 V	
Quiescent Current (mA)			Single 20mA Dual 40mA	
Input offset voltage (mV)		$R_s = 0$	8.5μ V	120μ V
Input offset current (mA)			40μ A	70μ A
Input BIAS current (μ A)			102μ A	180μ A
Common-Mode Rejection Ratio			102dB	
AC Characteristics				
		Conditions	Testing Temperature 25° C Supply Voltage ± 12 V	
Open-loop gain (dB)			95dB	
Gain Bandwidth Product (MHz)		@ 100KHZ	50 MHz	
Slew Rate (V/ μ S)		$R_L = 600\Omega$	35 V/ μ S	49 V/ μ S
Input Resistant (KOhm)			50 M Ω	
Crosstalk distortion (dB) (Dual Opamp)			102dB	114dB
Total Harmonic Distortion (%) 1Khz @ 2V output		$R_L = 600\Omega$ Gain=1 @1kHz 1Vrms	0.002%	0.004%
Output Impedance (Ohm)			10Ω	

Broad Band Noise DC - 20 KHz Bandwidth	Gain @ 100		360nV
	Dual	Single	
Dimension:	40mm x 16mm x 20mm	40mm x 16mm x 14mm	
Weight:			

