

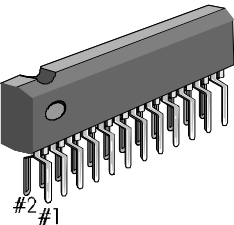
INTRODUCTION

The S1A0234B01 is a monolithic integrated circuit developed for the tereo 5 band graphic equalizer amplifier. It consists of an operational amplifier, and four resonant circuits with an active filter. It is suitable for radio cassette-tape recorders, car stereos or music centers.

FEATURES

- Tone control with independent adjustment of each band through external capacitor
- Gain control through external variable resistor (Gain = $\pm 11\text{dB}$)
- Excellent cross talk characteristics (CT = 70dB Typ, at $R_G = 0$)
- Wide operating supply voltage range: $V_{CC} = 3.5\text{V} \text{ --- } 14\text{V}$

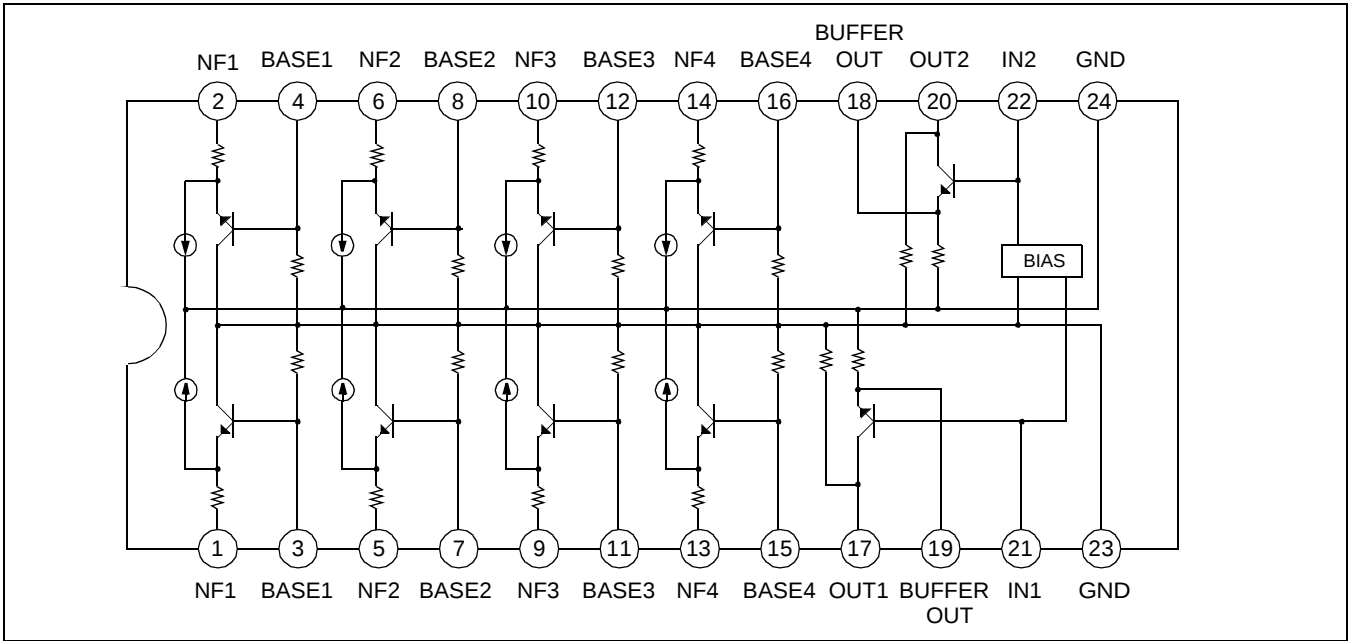
24-SZIP-275



ORDERING INFORMATION

Device	Package	Operating Temperature
S1A0234B01-Y0B0	24-SZIP-275	-20°C — +70°C

BLOCK DIAGRAM



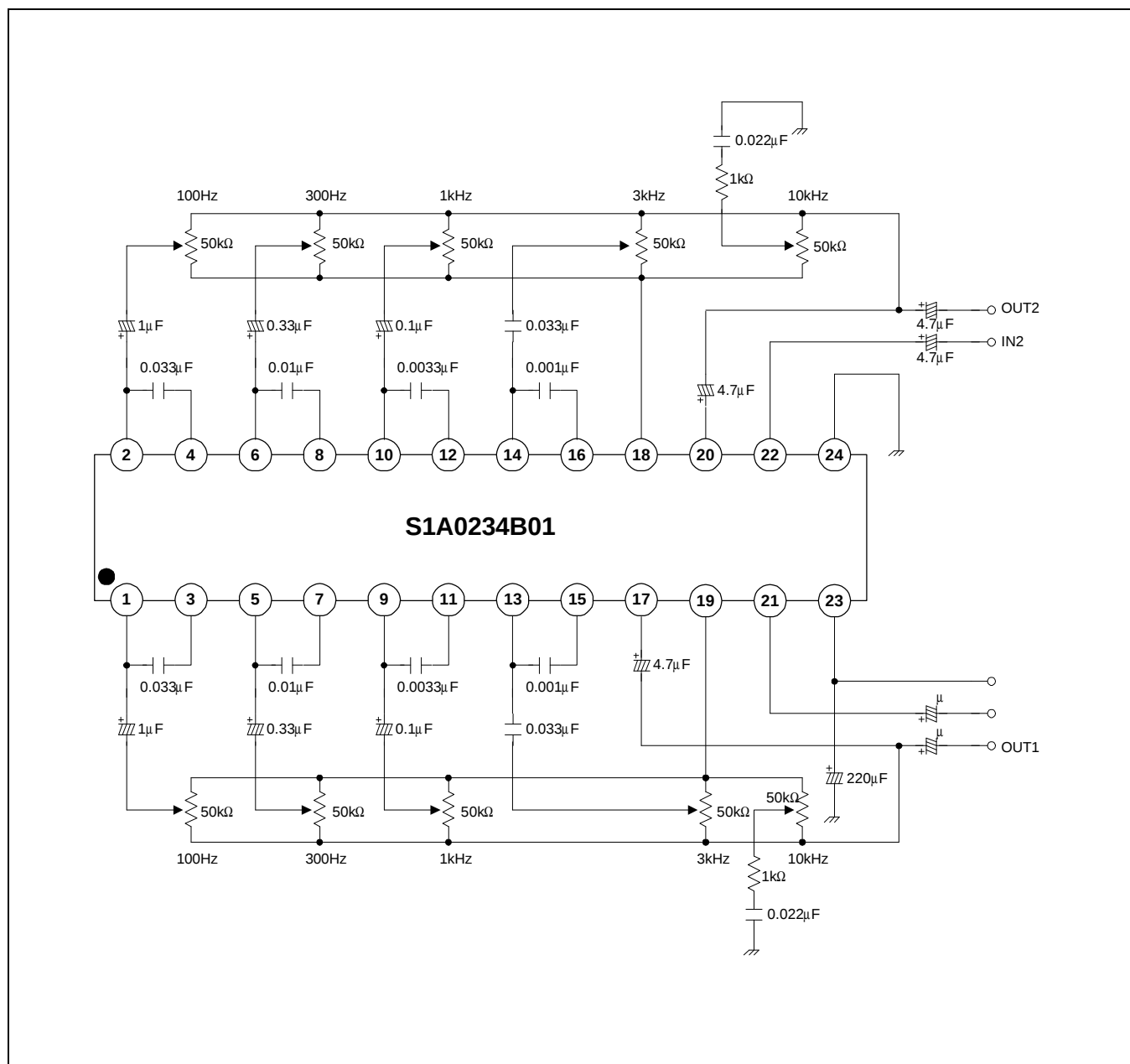
ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	15	V
Power Dissipation	P_D	500	mW
Operating Temperature	T_{OPR}	-20 — + 70	°C
Storage Temperature	T_{STG}	-40 — + 125	°C

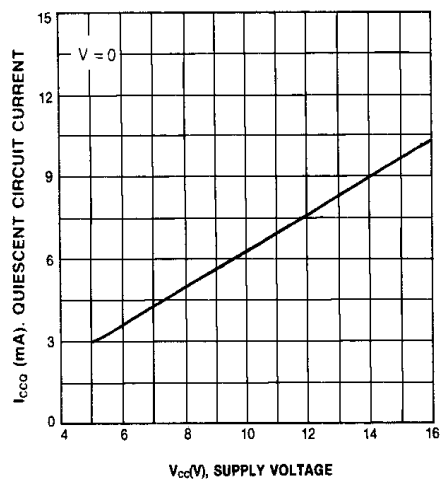
ELECTRICAL CHARACTERISTICS(Ta = 25°C, V_{CC} = 8V, R_L = 20K, Flat Mode, unless otherwise specified)

Characteristic		Symbol	Test Conditions		Min.	Typ.	Max.	Unit
			f(Hz)	Conditions				
Quiescent Circuit Current		I_{CCQ}		$V_I = 0$	4.0	7.0	10.0	mA
Output Voltage		V_O	1 K	THD = 1%	500	600	—	mV
Total Harmonic Distortion		THD	1 K	—	—	0.1	0.3	%
Channel Balance		CB	1 K	—	-1.0	0	1.0	dB
Cross Talk		CT	1 K	—	50	70	—	dB
Output Noise Voltage		V_{NO}	Flat, $R_G = 2.2K$ BW(-3 dB) = 10Hz – 30kHz		—	10	20	μV
Voltage Gain	Flat	G_V (Flat)	1 K	$V_I = 100mV$	-2.0	-1.5	1.0	dB
	Boost	G_V (Boost)	100	$V_I = 100mV$	9.0	11.0	14.0	dB
			300					
			1 K					
			3 K					
			10 K					
	Cut	G_V (Cut)	100	$V_I = 100mV$	-14.0	-11.0	-9.0	dB
			300					
			1 K					
			3 K					
			10 K					

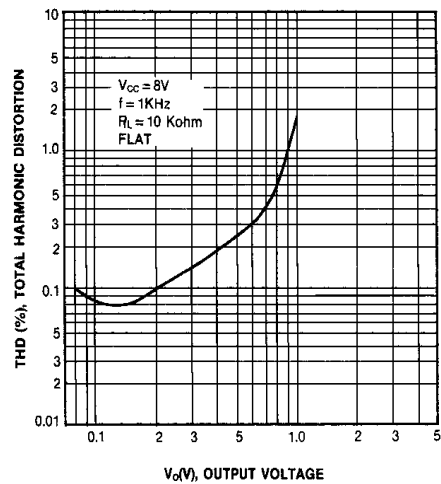
TEST CIRCUIT



QUIESCENT CIRCUIT CURRENT-SUPPLY VOLTAGE



TOTAL HARMONIC DISTORTION-OUTPUT VOLTAGE



FREQUENCY RESPONSE

