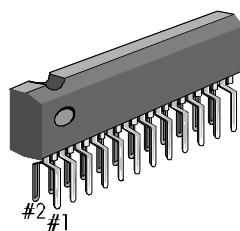


## INTRODUCTION

The S1A0234B01 is a monolithic integrated circuit developed for the stereo 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.

24-SZIP-275



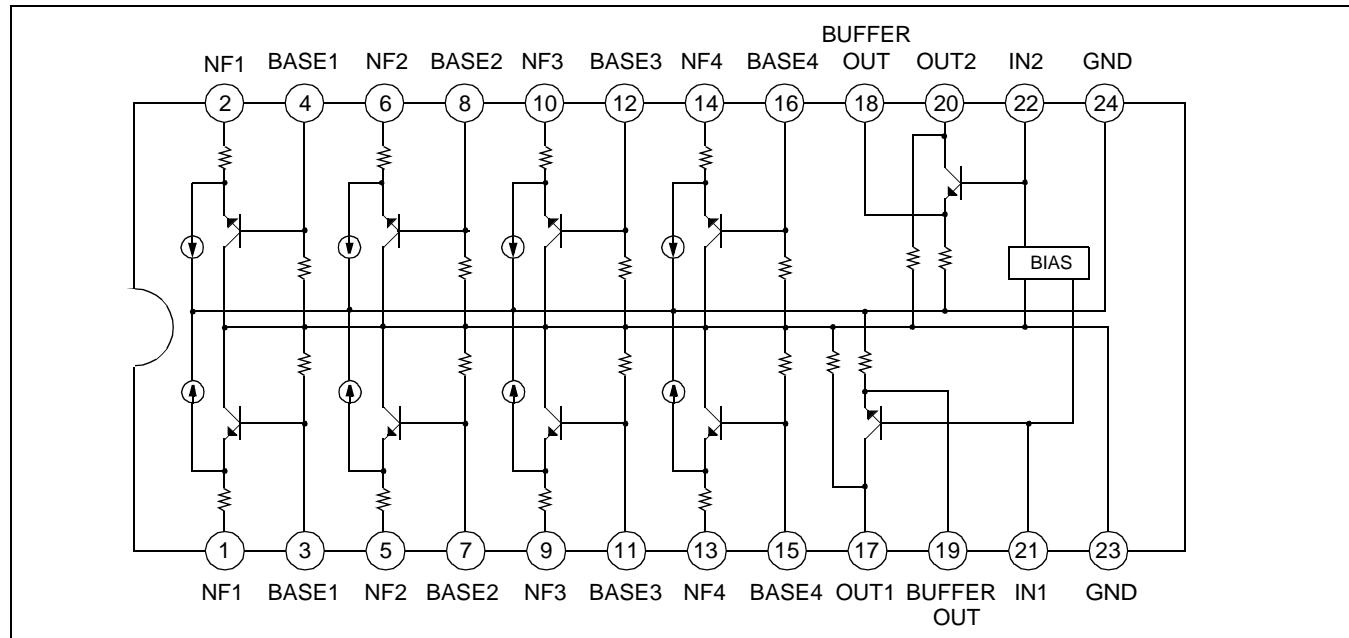
## FEATURES

- 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:  $V_{CC} = 3.5\text{V} — 14\text{V}$

## 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 <sub>CC</sub>	15	V
Power Dissipation	P <sub>D</sub>	500	mW
Operating Temperature	T <sub>OPR</sub>	-20 — + 70	°C
Storage Temperature	T <sub>STG</sub>	-40 — + 125	°C

**ELECTRICAL CHARACTERISTICS**(Ta = 25°C, V<sub>CC</sub> = 8V, R<sub>L</sub> = 20K, Flat Mode, unless otherwise specified)

Characteristic	Symbol	Test Conditions		Min.	Typ.	Max.	Unit	
		f(Hz)	Conditions					
Quiescent Circuit Current	I <sub>CCQ</sub>		V <sub>I</sub> = 0	4.0	7.0	10.0	mA	
Output Voltage	V <sub>O</sub>	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 <sub>NO</sub>	Flat, RG = 2.2K BW(-3 dB) = 10Hz – 30kHz		—	10	20	μV	
Voltage Gain	Flat	G <sub>V</sub> (Flat)	1 K	V <sub>I</sub> = 100mV	-2.0	-1.5	1.0	dB
	Boost	G <sub>V</sub> (Boost)	100	V <sub>I</sub> = 100mV	9.0	11.0	14.0	dB
			300					
			1 K					
			3 K					
	Cut	G <sub>V</sub> (Cut)	10 K					
			100		-14.0	-11.0	-9.0	dB
			300					
			1 K					
			3 K					
			10 K					

## TEST CIRCUIT

