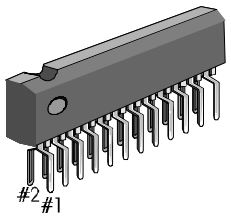
INTRODUCTION

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.

24–SZIP–275



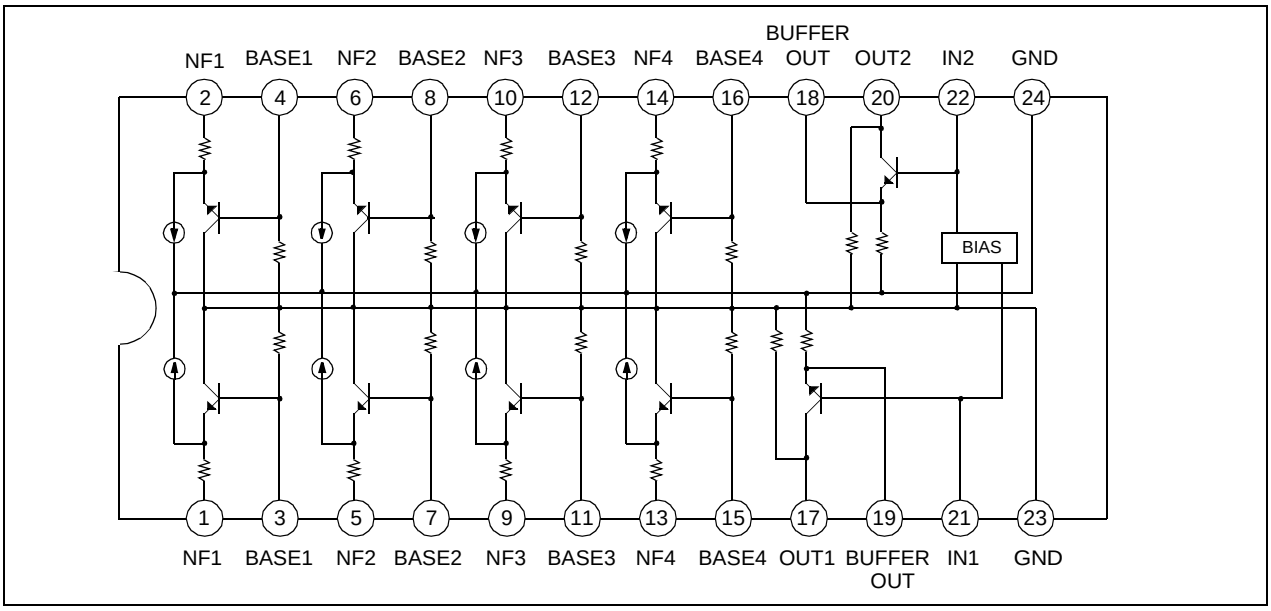
FEATURES

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

ORDERING INFORMATION

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

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

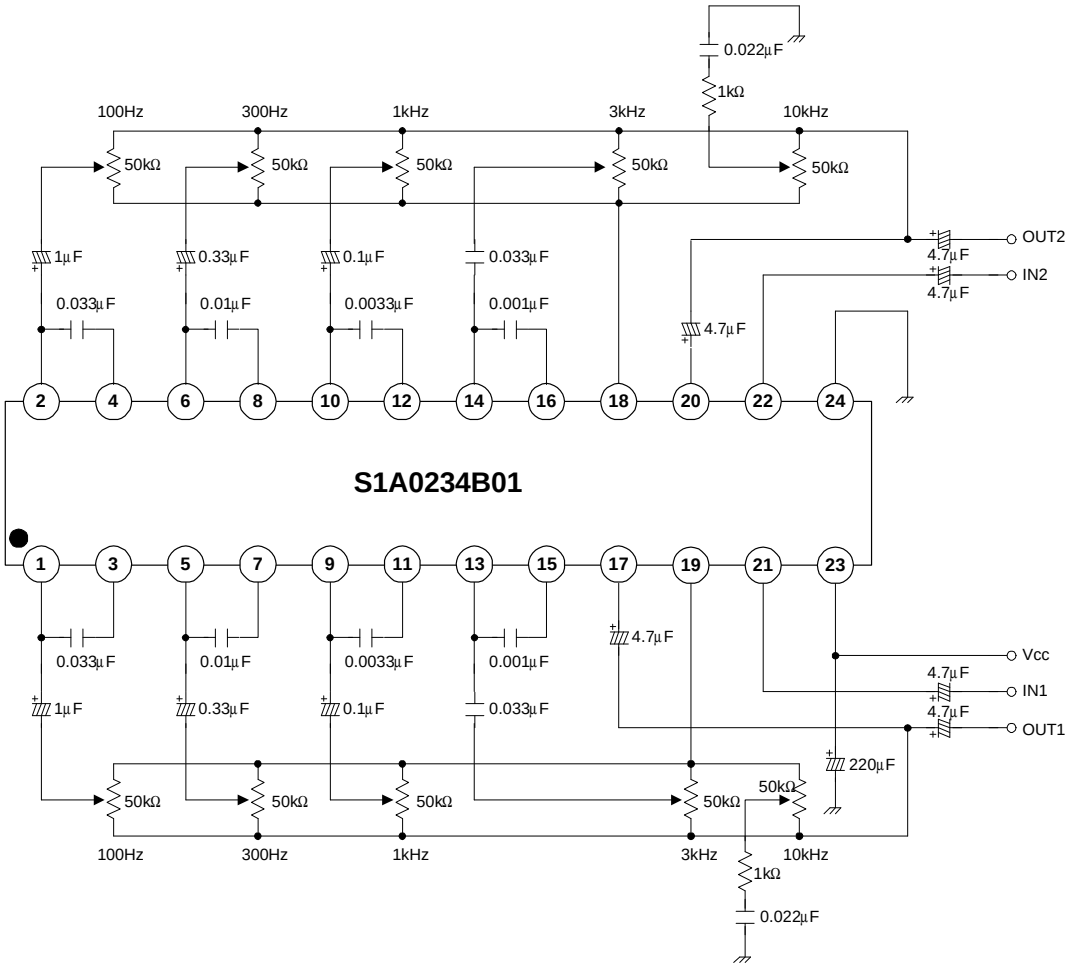
Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	15	V
Power Dissipation	P_D	500	mW
Operating Temperature	T_{OPR}	–20 — + 70	°C
Storage Temperature	T_{STG}	–40 — + 125	°C

ELECTRICAL CHARACTERISTICS

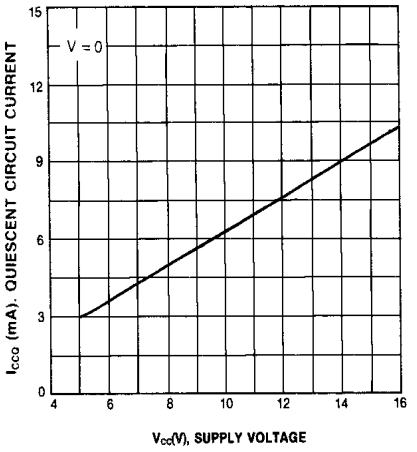
(Ta = 25°C, V_{CC} = 8V, R_L= 20K, Flat Mode, unless otherwise specified)

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, RG = 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					

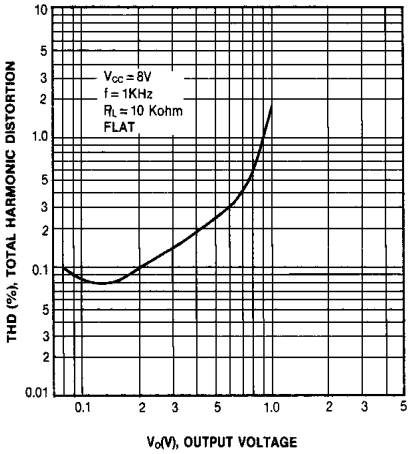
TEST CIRCUIT



QUIESCENT CIRCUIT CURRENT-SUPPLY VOLTAGE



TOTAL HARMONIC DISTORTION-OUTPUT VOLTAGE



FREQUENCY RESPONSE