Audio sound controller
BH3864F

The BH3864F has been developed for use in mini-component stereo systems. Switching is done using a resistor ladder to suppress DC offset at switching. Two-line serial control is available, and external three-line serial control is also possible. The package is a compact 24-pin SOP.

●Applications
Mini-and micro-component stereo systems, CD radio cassette players and TVs.

●Features
1) Volume, tone, and dynamic bass boost control possible by a serial link to a microprocessor.
2) Left and right channel volume can be controlled independently.
3) Resistor-ladder type volume control uses BiCMOS process for low distortion and noise.
4) Dynamic bass and linked ALC are provided on chip.

●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Applied voltage	V_{CC}	$-0.3 \sim +10.0$	V
Power dissipation	Pd	550 *	mW
Operating temperature	Topr	$-40 \sim +85$	℃
Storage temperature	Tstg	$-55 \sim +125$	℃

∗ Reduced by 5.5mW for each increase in Ta of 1°C over 25°C, when mounted on a 50mm×50mm× 1.6mm board.

●Recommended operating conditions (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power supply voltage	V_{CC}	7.0	9.0	9.5	V

ROHM

●Block diagram
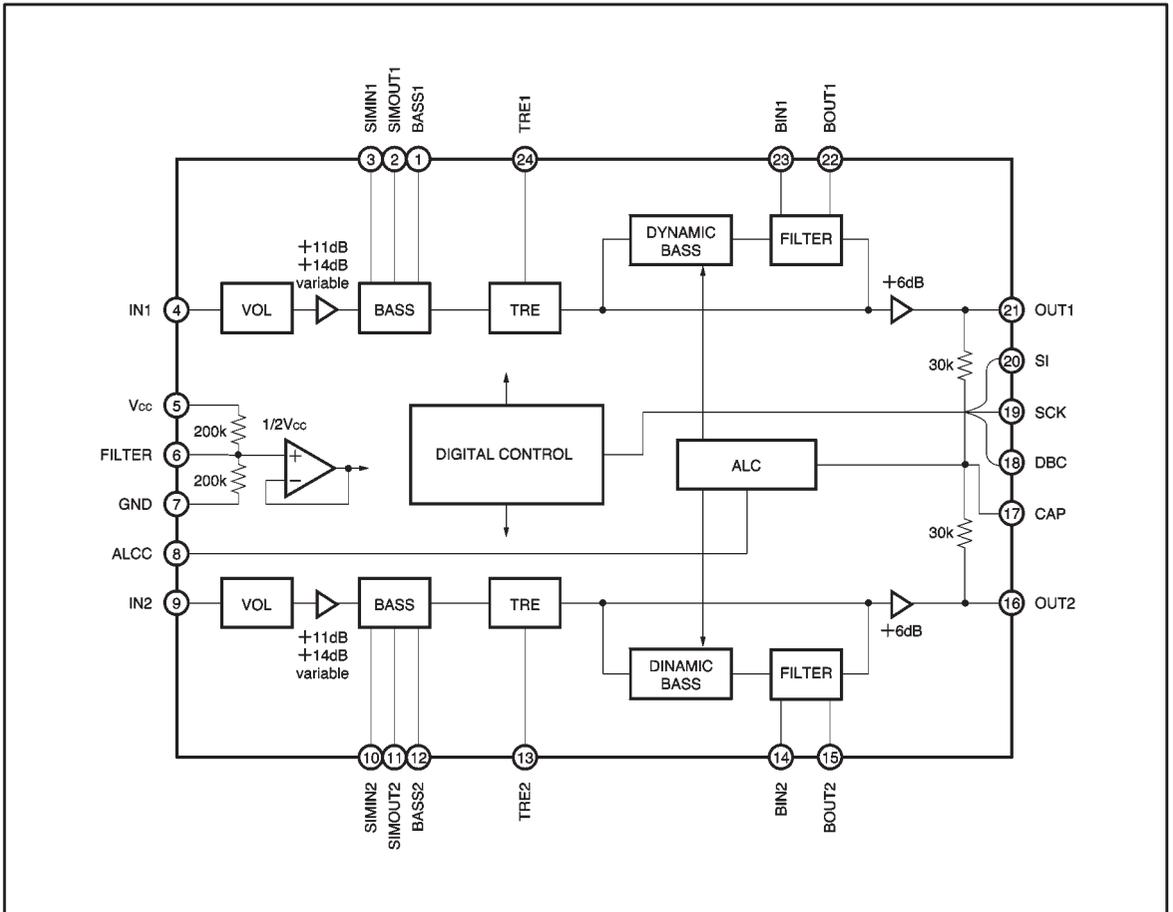
●Pin descriptions

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	BASS1	Channel 1 bass filter setting	13	TRE2	Channel 2 treble filter setting
2	SIMOUT1	Channel 1 bass filter setting	14	BIN2	Channel 2 dynamic bass filter setting
3	SIMIN1	Channel 1 bass filter setting	15	BOUT2	Channel 2 dynamic bass filter setting
4	IN1	Channel 1 signal input	16	OUT2	Channel 2 signal output
5	V_{CC}	Power supply	17	CAP	ALC trap frequency setting
6	FILTER	Filter	18	DBC	Dynamic bass switch retiming setting
7	GND	Ground	19	SCK	Serial clock input
8	ALCC	ALC attack and release time setting	20	SI	Serial data input

●Electrical characteristics (unless otherwise noted, Ta = 25°C, V_{CC} = 9V, f = 1kHz, Rg = 600Ω, R_L = 10kΩ, BW = 20Hz to 20kHz, V_{IN} = 200mV$_{rms}$, volume = 0dB, tone = 0dB, dynamic bass = 0dB, and gain select = 14dB)