

# 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)

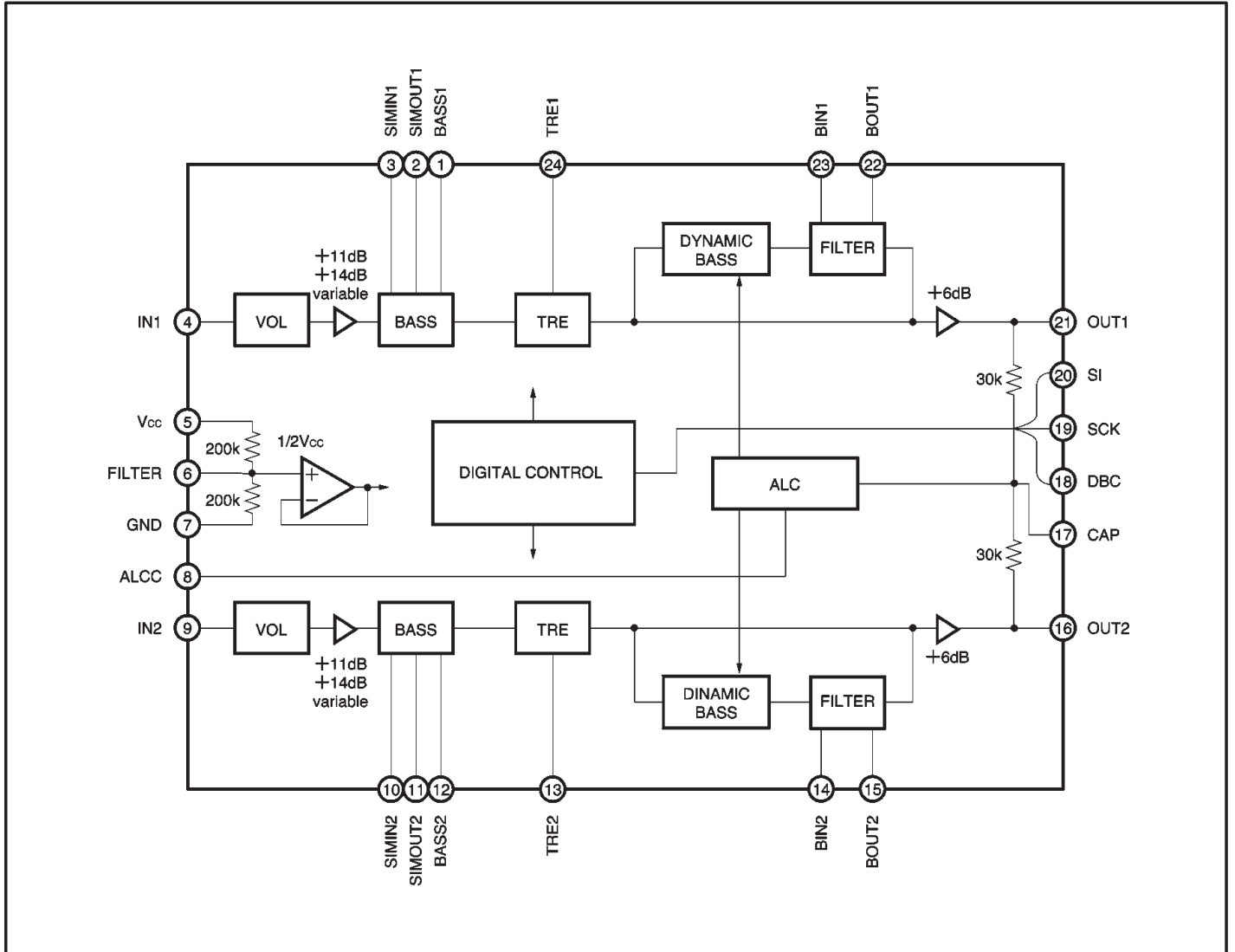
Parameter	Symbol	Limits	Unit
Applied voltage	V <sub>cc</sub>	-0.3~+10.0	V
Power dissipation	P <sub>d</sub>	550 *	mW
Operating temperature	T <sub>opr</sub>	-40~+85	°C
Storage temperature	T <sub>stg</sub>	-55~+125	°C

\* 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 <sub>cc</sub>	7.0	9.0	9.5	V

●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 <sub>CC</sub>	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,  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = 9\text{V}$ ,  $f = 1\text{kHz}$ ,  $R_g = 600\Omega$ ,  $R_L = 10\text{k}\Omega$ ,  $BW = 20\text{Hz to } 20\text{kHz}$ ,  $V_{IN} = 200\text{mV}_{\text{rms}}$ , volume = 0dB, tone = 0dB, dynamic bass = 0dB, and gain select = 14dB)

### Notes

- No technical content pages of this document may be reproduced in any form or transmitted by any means without prior permission of ROHM CO.,LTD.
- The contents described herein are subject to change without notice. The specifications for the product described in this document are for reference only. Upon actual use, therefore, please request that specifications to be separately delivered.
- Application circuit diagrams and circuit constants contained herein are shown as examples of standard use and operation. Please pay careful attention to the peripheral conditions when designing circuits and deciding upon circuit constants in the set.
- Any data, including, but not limited to application circuit diagrams information, described herein are intended only as illustrations of such devices and not as the specifications for such devices. ROHM CO.,LTD. disclaims any warranty that any use of such devices shall be free from infringement of any third party's intellectual property rights or other proprietary rights, and further, assumes no liability of whatsoever nature in the event of any such infringement, or arising from or connected with or related to the use of such devices.
- Upon the sale of any such devices, other than for buyer's right to use such devices itself, resell or otherwise dispose of the same, no express or implied right or license to practice or commercially exploit any intellectual property rights or other proprietary rights owned or controlled by ROHM CO., LTD. is granted to any such buyer.
- Products listed in this document use silicon as a basic material.  
Products listed in this document are no antiradiation design.

The products listed in this document are designed to be used with ordinary electronic equipment or devices (such as audio visual equipment, office-automation equipment, communications devices, electrical appliances and electronic toys).

Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

#### About Export Control Order in Japan

Products described herein are the objects of controlled goods in Annex 1 (Item 16) of Export Trade Control Order in Japan.

In case of export from Japan, please confirm if it applies to "objective" criteria or an "informed" (by MITI clause) on the basis of "catch all controls for Non-Proliferation of Weapons of Mass Destruction.