

Structure : Silicon Monolithic Integrated Circuit

Product : 9ch Function Switch

Type : **BD3841FS**

Feature : (1) For 2nd room entertainment.

(2) For 2nd source recording.

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power Supply Voltage	V _{CC}	15	V
Power Dissipation	P _d	SSOP 950※	mW
Operating Temperature	T _{opr}	−20~+75	°C
Storage Temperature	T _{astg}	−55~+125	°C

※ Over Ta = 25°C, derating at the rate of 9.5mW/°C. When installed on the standard board (size : 70 x70 x 1.6mm).

Operating Voltage Range

Parameter	Symbol	Limit	Unit
Power Supply Voltage (both power sources)	V _{CC} -GND	5~7.3	V
	V _{EE} -GND	−5~−7.3	
Power Supply Voltage (single power source)	V _{CC} - V _{EE}	10~14.6	V

(It must function normally at Ta = 25°C)

Application example

Note that ROHM cannot provide adequate confirmation of patents.

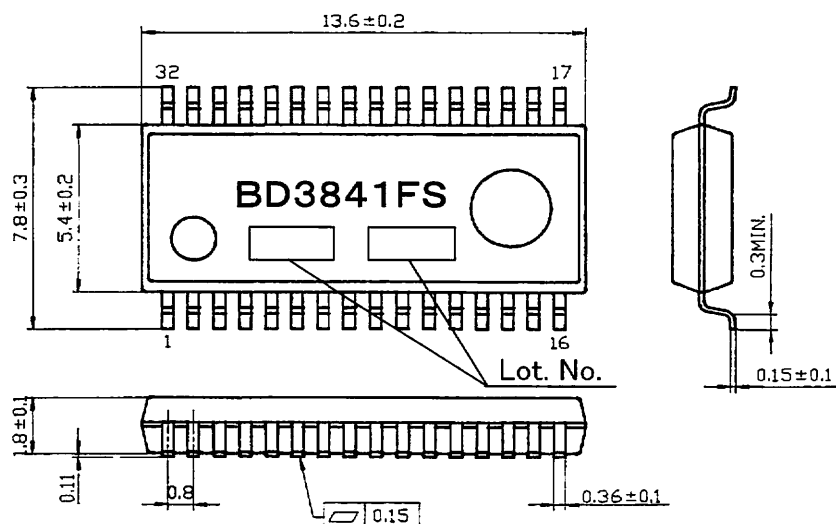
The product described in this specification is designed to be used with ordinary electronic equipment or devices (such as audio-visual equipment, office-automation equipment, communications devices, electrical appliances, and electronic toys). Should you intend to use this product with equipment or devices 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.

Electrical characteristics

Ta=25°C, VCC=7V, VEE=7V, f=1kHz, Vin=1Vrms, RL=10kΩ, Rg=600Ω, unless otherwise noted.

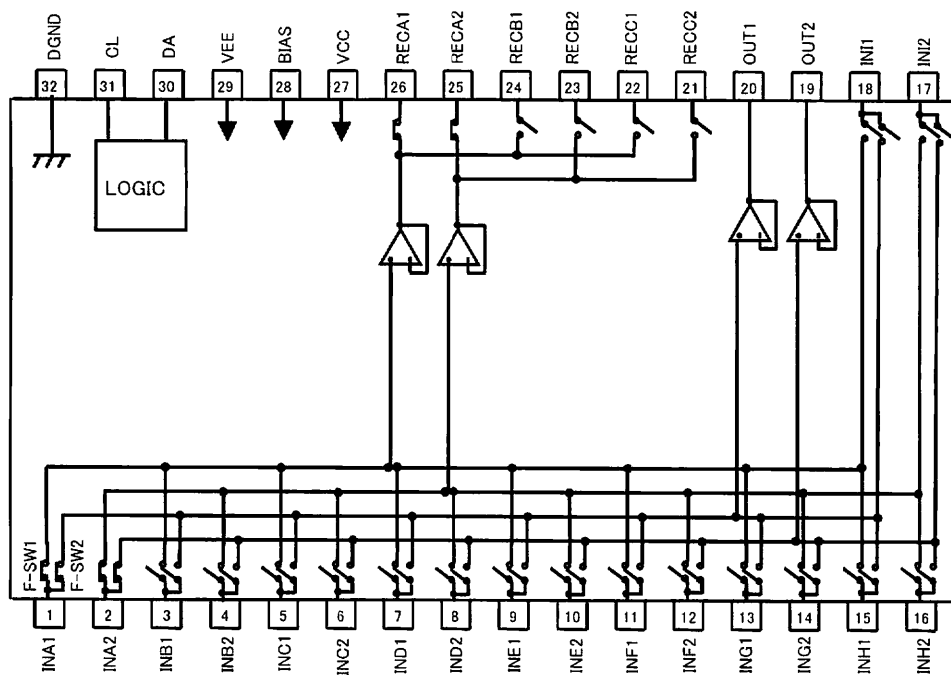
	Symbol	Parameter	Limit			Unit	Conditions
			Min.	Typ.	Max.		
	IQ	Circuit current	—	3	10	mA	No signal
Output	Gv1	Output voltage gain 1ch	-2	0	2	dB	Measure : Pin20
	Gv2	Output voltage gain 2ch	-2	0	2	dB	Measure : Pin19
	THD1	Total harmonic distortion ratio 1ch	—	0.004	0.05	%	Measure : Pin20 BW=400~30kHz
	THD2	Total harmonic distortion ratio 2ch	—	0.004	0.05	%	Measure : Pin19 BW=400~30kHz
	Vomax1	Maximum output voltage 1ch	3.4	4.2	—	Vrms	Measure : Pin20 THD=1%
	Vomax2	Maximum output voltage 2ch	3.4	4.2	—	Vrms	Measure : Pin19 THD=1%
	Vno1	Output noise voltage 1ch	—	1	5	μVrms	Measure : Pin 20 Rg=0Ω, BW=IHF-A
	Vno2	Output noise voltage 2ch	—	1	5	μVrms	Measure : Pin 19 Rg=0Ω, BW=IHF-A
	CTC12	Cross-talk between channels 1ch→2ch	—	-95	-80	dB	Measure : Pin19(OUT2), Rg=0Ω, BW=IHF-A Reference: Pin20(OUT1)=1Vrms
	CTC21	Cross-talk between channels 2ch→1ch	—	-95	-80	dB	Measure : Pin20(OUT1), Rg=0Ω, BW=IHF-A Reference: Pin19(OUT2)=1Vrms
	CTS1	Cross-talk between selectors 1ch	—	-95	-80	dB	Measure : Pin20 Rg=0Ω, BW=IHF-A
	CTS2	Cross-talk between selectors 2ch	—	-95	-80	dB	Measure : Pin19 Rg=0Ω, BW=IHF-A
REC output	GVR1	R voltage gain 1ch	-2	0	2	dB	RL=47kΩ, Measure : Pin 22, 24, 26
	GVR2	R voltage gain 2ch	-2	0	2	dB	RL=47kΩ, Measure : Pin 21, 23, 25
	THDR1	R Total harmonic distortion ratio 1ch	—	0.01	0.09	%	RL=47kΩ, Measure : Pin 22, 24, 26 BW=400~30kHz
	THDR2	R Total harmonic distortion ratio 2ch	—	0.01	0.09	%	RL=47kΩ, Measure : Pin 21, 23, 25 BW=400~30kHz
	VnoR1	R output noise voltage 1ch	—	1	5	μVms	Measure : Pin 22, 24,26 Rg=0Ω, BW=IHF-A
	VnoR2	R output noise voltage 2ch	—	1	5	μVms	Measure : Pin 21, 23,25 Rg=0Ω, BW=IHF-A
	RoutR1	R output impedance 1ch	—	50	100	Ω	Measure : Pin 22, 24, 26
	RoutR2	R output impedance 2ch	—	50	100	Ω	Measure : Pin 21, 23, 25

Outline dimension • Marking dimension



SSOP-A32 (Unit:mm)

Block diagram



* F-SW1: INPUT FUNCTION1
 F-SW2: INPUT FUNCTION2

Pin number•Pin name

Pin number	Pin name	Pin number	Pin name
1	INA1	17	INI2
2	INA2	18	INI1
3	INB1	19	OUT2
4	INB2	20	OUT1
5	INC1	21	RECC2
6	INC2	22	RECC1
7	IND1	23	RECB2
8	IND2	24	RECB1
9	INE1	25	RECA2
10	INE2	26	RECA1
11	INF1	27	VCC
12	INF2	28	BIAS
13	ING1	29	VEE
14	ING2	30	DA
15	INH1	31	CL
16	INH2	32	DGND

Cautions on use

1. Operating power supply voltage range

Basic circuit function and operation can be guaranteed within the operating temperature range and within the operating power supply voltage range. Upon use, check those ranges carefully and specify the constant, element, voltage and temperature.

2. Operating temperature range

Circuit function and operation can be guaranteed for the time being within the operating temperature range and within the operating voltage range. Please note that the conditions of allowable dissipation interlock with the temperature.

Although specified value cannot be guaranteed under any conditions other than those specified by the electrical characteristics within this range, the original function is maintained.

3. Serial control

Carry out wiring and pattern wiring of CL terminal and DA terminal so that they should not interfere with the analog signal system line.

4. At Power ON/OFF

(a) When the power is turned ON/OFF, a shock sound comes out, therefore, activate MUTE on set.

(b) In impressing power source, impress VEE and VCC at the same time, or impress VEE side first. If the VCC side is started first, excessive current flows between VCC and VEE.

5. Function switching

When functions are switched, activate MUTE on set.

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 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.

Thank you for your accessing to ROHM product informations.
More detail product informations and catalogs are available,
please contact your nearest sales office.

Please contact our sales offices for details ;

U.S.A / San Diego	TEL : +1(858)625-3630	FAX : +1(858)625-3670
Atlanta	TEL : +1(770)754-5972	FAX : +1(770)754-0691
Dallas	TEL : +1(972)312-8818	FAX : +1(972)312-0330
Germany / Dusseldorf	TEL : +49(2154)9210	FAX : +49(2154)921400
United Kingdom / London	TEL : +44(1)908-282-666	FAX : +44(1)908-282-528
France / Paris	TEL : +33(0)1 56 97 30 60	FAX : +33(0) 1 56 97 30 80
China / Hong Kong	TEL : +852(2)740-6262	FAX : +852(2)375-8971
Shanghai	TEL : +86(21)6279-2727	FAX : +86(21)6247-2066
Dilian	TEL : +86(411)8230-8549	FAX : +86(411)8230-8537
Beijing	TEL : +86(10)8525-2483	FAX : +86(10)8525-2489
Taiwan / Taipei	TEL : +866(2)2500-6956	FAX : +866(2)2503-2869
Korea / Seoul	TEL : +82(2)8182-700	FAX : +82(2)8182-715
Singapore	TEL : +65-6332-2322	FAX : +65-6332-5662
Malaysia / Kuala Lumpur	TEL : +60(3)7958-8355	FAX : +60(3)7958-8377
Philippines / Manila	TEL : +63(2)807-6872	FAX : +63(2)809-1422
Thailand / Bangkok	TEL : +66(2)254-4890	FAX : +66(2)256-6334

Japan /
(Internal Sales)

Tokyo	2-1-1, Yaesu, Chuo-ku, Tokyo 104-0082	
	TEL : +81(3)5203-0321	FAX : +81(3)5203-0300
Yokohama	2-4-8, Shin Yokohama, Kohoku-ku, Yokohama, Kanagawa 222-8575	
	TEL : +81(45)476-2131	FAX : +81(45)476-2128
Nagoya	Dainagayo Building 9F 3-28-12, Meieki, Nakamura-ku, Nagoya, Aichi 450-0002	
	TEL : +81(52)581-8521	FAX : +81(52)561-2173
Kyoto	579-32 Higashi Shiokouji-cho, Karasuma Nishi-iru, Shiokoujidori, Shimogyo-ku, Kyoto 600-8216	
	TEL : +81(75)311-2121	FAX : +81(75)314-6559

(Contact address for overseas customers in Japan)

Yokohama	TEL : +81(45)476-9270	FAX : +81(045)476-9271
----------	-----------------------	------------------------