

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	Vcc	15	V
Power Dissipation	Pd	SSOP 950※	mW
Operating Temperature	Topr	-20~+75	°C
Storage Temperature	Tastg	-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)	VCC-GND	5~7.3	V
	VEE-GND	-5~-7.3	
Power Supply Voltage (single power source)	VCC- VEE	10~14.6	V

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

Application example

Note that ROHM cannot provide adequate confirmation of patents.

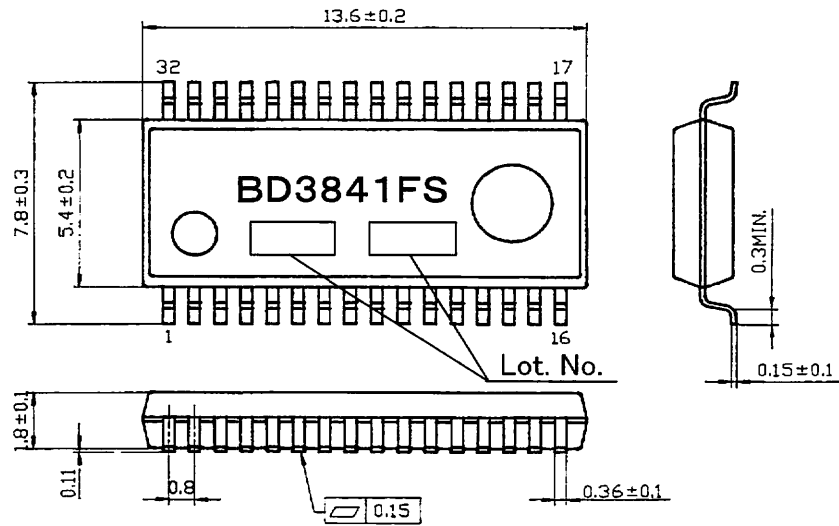
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Electrical characteristics

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

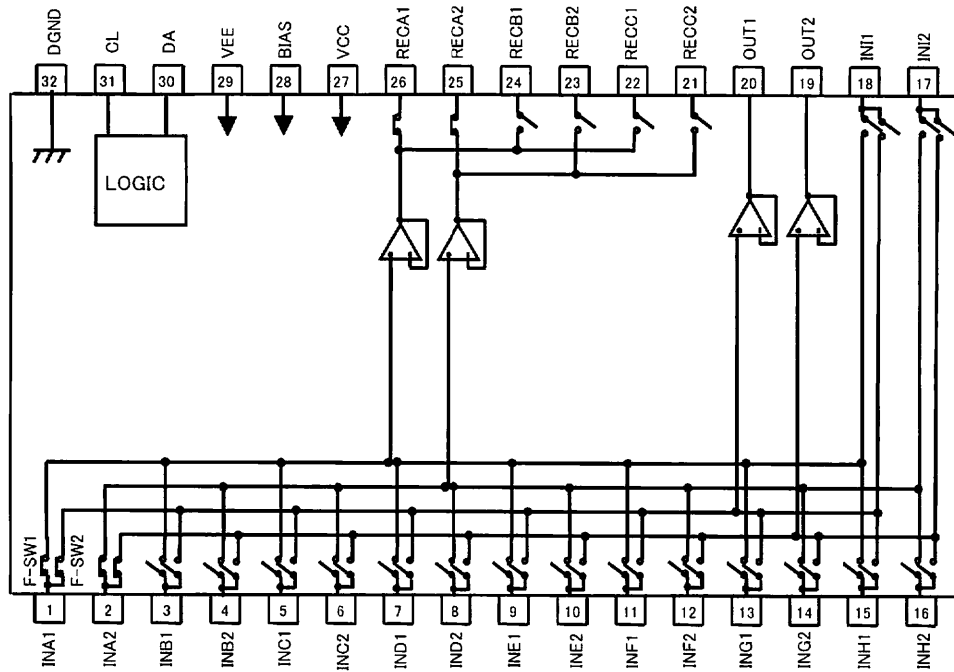
	Symbol	Parameter	Limit			Unit	Conditions
			Min.	Typ.	Max.		
	IQ	Circuit current	—	3	10	mA	No signal
Output	Gv1	Output voltage gain 1ch	-2	0	2	dB	Measure : Pin20
	Gv2	Output voltage gain 2ch	-2	0	2	dB	Measure : Pin19
	THD1	Total harmonic distortion ratio 1ch	—	0.004	0.05	%	Measure : Pin20 BW=400~30kHz
	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.

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