

Structure : Silicon Monolithic Integrated Circuit

Product : 6ch Function Switch

Type : **BD3843FS**

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	7.5 ※1	V
	VEE	-7.5	
Input Signal Voltage	VIN	VCC+0.3~VEE-0.3	V
Power Dissipation	Pd	800※2	mW
Operating Temperature	Topr	-20~+75	°C
Storage Temperature	Tastg	-55~+125	°C

※1 Please note the case of impression on only VCC side even in the impression voltage range, excessive current may flow and IC may be broken.

Impress VEE and VCC at the same time, or impress VEE side first in impressing power source.

※2 Over Ta = 25°C, derating at the rate of 8mW/°C. When installed on the standard board (size : 70 x 70 x 1.6mm).

#### Operating Voltage Range

Parameter	Symbol	Limit	Unit
Power Supply Voltage (both power sources)	VCC-GND	4~7.3	V
	VEE-GND	-4~-7.3	
Power Supply Voltage (single power source)	VCC- VEE	8~14.6	V

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

#### Application example

Note that ROHM cannot provide adequate confirmation of patents.

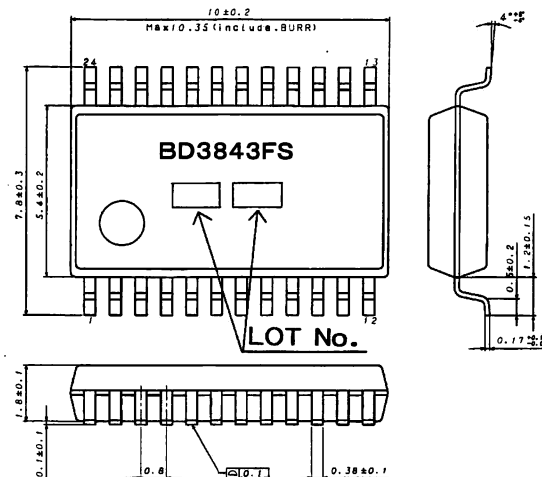
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## Electrical characteristics

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

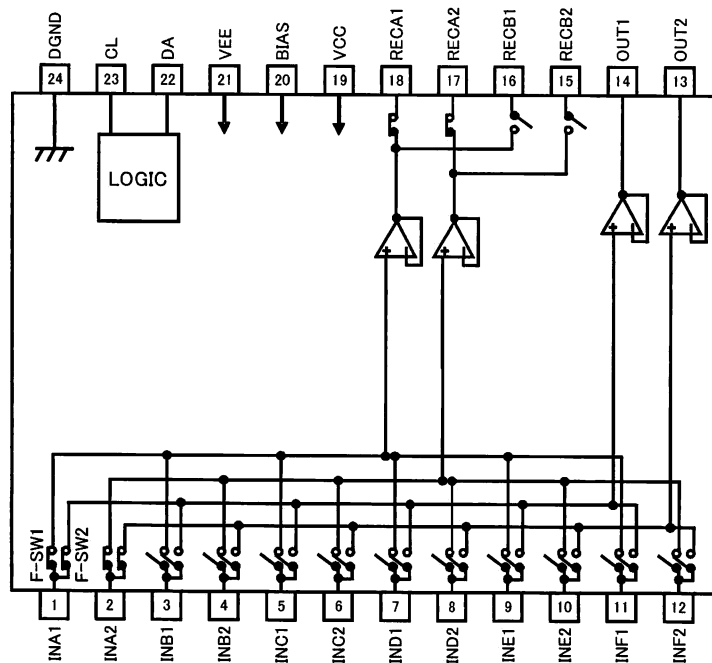
	Symbol	Parameter	Limit			Unit	Conditions
			Min.	Typ.	Max.		
	IQ	Circuit current	—	3	10	mA	No signal
Output	Gv1	Output voltage gain 1ch	-2	0	2	dB	Measure : Pin14
	Gv2	Output voltage gain 2ch	-2	0	2	dB	Measure : Pin13
	THD1	Total harmonic distortion ratio 1ch	—	0.004	0.05	%	Measure : Pin14 BW=400~30kHz
	THD2	Total harmonic distortion ratio 2ch	—	0.004	0.05	%	Measure : Pin13 BW=400~30kHz
	Vomax1	Maximum output voltage 1ch	3.4	4.2	—	Vrms	Measure : Pin14 THD=1%
	Vomax2	Maximum output voltage 2ch	3.4	4.2	—	Vrms	Measure : Pin13 THD=1%
	Vno1	Output noise voltage 1ch	—	1	5	μVrms	Measure : Pin14 Rg=0Ω, BW=IHF-A
	Vno2	Output noise voltage 2ch	—	1	5	μVrms	Measure : Pin13 Rg=0Ω, BW=IHF-A
	CTC12	Cross-talk between channels 1ch→2ch	—	-95	-80	dB	Measure : Pin13(OUT2), Rg=0Ω, BW=IHF-A Reference: Pin14(OUT1)=1Vrms
	CTC21	Cross-talk between channels 2ch→1ch	—	-95	-80	dB	Measure : Pin14(OUT1), Rg=0Ω, BW=IHF-A Reference: Pin13(OUT2)=1Vrms
	CTS1	Cross-talk between selectors 1ch	—	-95	-80	dB	Measure : Pin14 Rg=0Ω, BW=IHF-A
	CTS2	Cross-talk between selectors 2ch	—	-95	-80	dB	Measure : Pin13 Rg=0Ω, BW=IHF-A
REC output	GVR1	R voltage gain 1ch	-2	0	2	dB	RL=47kΩ, Measure : Pin16,18
	GVR2	R voltage gain 2ch	-2	0	2	dB	RL=47kΩ, Measure : Pin15,17
	THDR1	R Total harmonic distortion ratio 1ch	—	0.01	0.09	%	RL=47kΩ, Measure : Pin16,18 BW=400~30kHz
	THDR2	R Total harmonic distortion ratio 2ch	—	0.01	0.09	%	RL=47kΩ, Measure : Pin15,17 BW=400~30kHz
	VnoR1	R output noise voltage 1ch	—	1	5	μVms	Measure : Pin16,18 Rg=0Ω, BW=IHF-A
	VnoR2	R output noise voltage 2ch	—	1	5	μVms	Measure : Pin15,17 Rg=0Ω, BW=IHF-A
	RoutR1	R output impedance 1ch	—	50	100	Ω	Measure : Pin16,18
	RoutR2	R output impedance 2ch	—	50	100	Ω	Measure : Pin15,17

## Outline dimension • Marking dimension



SSOP—A24 (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	13	OUT2
2	INA2	14	OUT1
3	INB1	15	RECB2
4	INB2	16	RECB1
5	INC1	17	RECA2
6	INC2	18	RECA1
7	IND1	19	VCC
8	IND2	20	BIAS
9	INE1	21	VEE
10	INE2	22	DA
11	INF1	23	CL
12	INF2	24	DGND

#### Cautions on use

##### 1. Voltage range and action temperature range

Circuit function actions are guaranteed within the action voltage range and the action temperature range. However, the specific values of the electrical characteristics are guaranteed under the specified conditions of the electrical characteristics. Therefore, carry out set calculations in sufficient consideration of IC characteristic fluctuations.

##### 2. 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.

##### 3. At Power ON/OFF

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

##### 4. Function switching

When functions are switched, activate MUTE on set.

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