Structure : Silicon Monolithic Integrated Circuit

Product Series : Audio Sound Processor for TV

Type : **BD3888FS**

Package : SSOP – A32

●Feature

1) I2C BUS control with the control voltage 3.3V-5.0V
2) Use the Bi-CMOS process
3) Built in 3 input selector

●Absolute maximum ratings (Ta=25℃)

Parameter	Symbol	Limit	Unit
Power supply voltage	VCC	10.0	V
Intput voltage	VIN	VCC+0.3 ～ GND-0.3	V
Power dissipation	Pd	1190 *1	mW
Storage temperature range	Tastg	-55 ～ +150	°C

*1 At Ta=25°C or higher, this value is decreaced to 9.5mW/°C.
When Rohm standard board is mounted. Thermal resistance θja = 105 (°C/W).
Rohm standard board: size: 70×70×1.6 (mm^3)
material: FR4 glass-epoxy substrate (copper foil area: not more than 3%).

●Operating Range

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power supply voltage	VCC	7.0	9.0	9.5	V
Temperture	Topr	-40	-	+85	°C

※ Design against radiation-proof isn't made

●Function

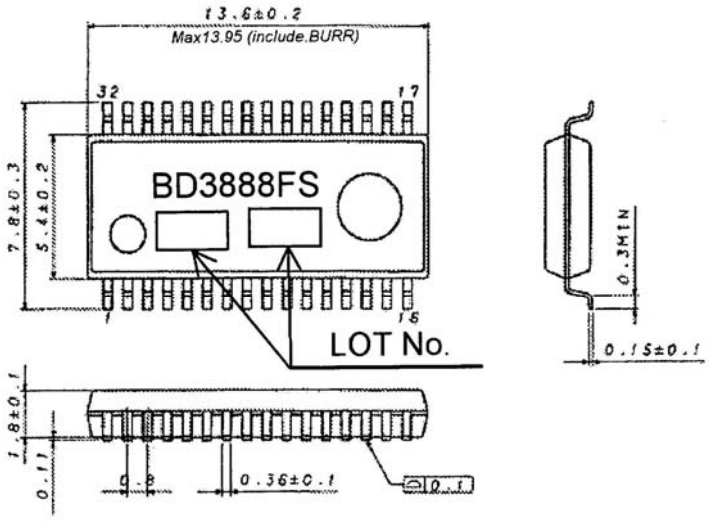
Function	Specifications
AGC	4 step suppression level variable
Front volume	0dB to –87dB (1dB step), -∞dB
Surround	Stereo Surround
Bass	±14dB (2dB step)
Treble	±14dB (2dB step)
Rear volume	0dB ～-20dB (2dB step), -25dB, -30dB, -45dB, -60dB, -∞dB (Independent control of 1ch/2ch is possible.)

●Electrical Characteristics

Unless specified: Ta=25°C, VCC=9V, f=1kHz, VIN=1Vrms, Rg=600Ω, RL=10kΩ, Front Volume 0dB, Rear Volume =0dB, Bass=0dB, Treble=0dB, AGC=OFF, SURROUND=OFF.

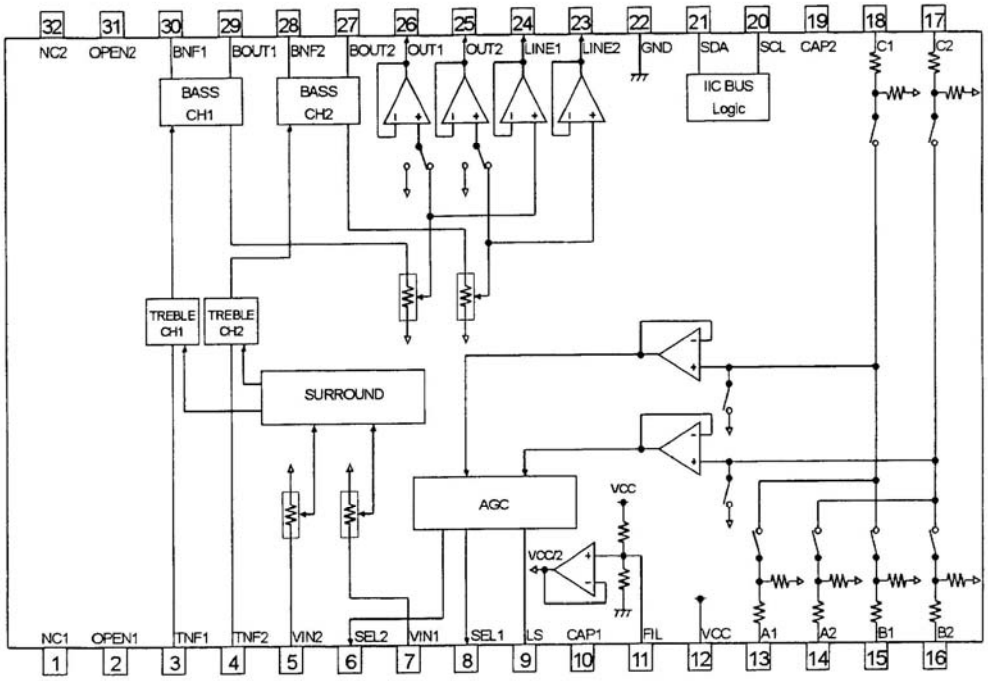
Parameter	Symbol	Limits			Unit	Conditions
		Min.	Typ.	Max.		
Current upon no signal	IQ	–	8	20	mA	Vin=0Vrms
Maximum input voltage	VIM	2.6	2.8	–	Vrms	Front Volume = -6dB THD(Vout)=1% BPF=400-30KHz
Maximum output voltage	VOM	2.2	2.5	–	Vrms	THD=1% BPF=400-30KHz
Voltage gain	GV	-2	0	2	dB	G_V=20log(Vout/Vin)
Channel balance	CB	-1.5	0	1.5	dB	CB = GV1-GV2
Total harmonic distortion	THD+N	–	0.008	0.1	%	Vout=500mVrms BPF=400-30KHz
Output noise voltage	VNO	–	6	18	μVrms	BPF = IHF-A, Rg=0Ω
Residual noise voltage	VNOR	–	1.5	10	μVrms	Front Volume = -87dB Rear Volume = -∞dB BPF = IHF-A, Rg=0Ω
Cross talk	CT	70	80	–	dB	CT = 20log(Vout2/Vout1) BPF = IHF-A

●Dimensional outline drawing



SSOP-A32 (Unit : mm)

●Block diagram



●Terminal No. / Terminal Name

Terminal No.	Terminal Name
1	NC1
2	OPEN1
3	TNF1
4	TNF2
5	VIN2
6	SEL2
7	VIN1
8	SEL1
9	LS
10	CAP1
11	FIL
12	VCC
13	A1
14	A2
15	B1
16	B2
17	C2
18	C1
19	CAP2
20	SCL
21	SDA
22	GND
23	LINE2
24	LINE1
25	OUT2
26	OUT1
27	BOUT2
28	BNF2
29	BOUT1
30	BNF1
31	OPEN2
32	NC2

●Caution on use

(1) Numbers and data in entries are representative design values and are not guaranteed values of the items.

(2) Absolute maximum ratings
If applied voltage, operating temperature range, or other absolute maximum ratings are exceeded, the LSI may be damaged. Do not apply voltages or temperatures that exceed the absolute maximum ratings. If you think of a case in which absolute maximum ratings are exceeded, enforce fuses or other physical safety measures and investigate how not to apply the conditions under which absolute maximum ratings are exceeded to the LSI.

(3) GND potential
Make the GND pin voltage such that it is the lowest voltage even when operating below it. Actually confirm that the voltage of each pin does not become a lower voltage than the GND pin, including transient phenomena.

(4) Thermal design
Perform thermal design in which there are adequate margins by taking into account the allowable power dissipation in actual states of use.

(5) Shorts between pins and misinstallation
When mounting the LSI on a board, pay adequate attention to orientation and placement discrepancies of the LSI. If it is misinstalled and the power is turned on, the LSI may be damaged. It also may be damaged if it is shorted by a foreign substance coming between pins of the LSI or between a pin and a power supply or a pin and a GND.

(6) Operation in strong magnetic fields
Adequately evaluate use in a strong magnetic field, since there is a possibility of malfunction.

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