

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°C)

| Parameter | Symbol | Limit | Unit |
|---------------------------|--------|-------------------|------|
| Power supply voltage | VCC | 10.0 | V |
| Input 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 decreased to 9.5mW/°C.

When Rohm standard board is mounted. Thermal resistance $\theta_{ja} = 105$ (°C/W).

Rohm standard board: size: 70×70×1.6 (mm³)

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 |
| Temperature | Topr | -40 | - | +85 | °C |

※ Design against radiation-proof isn't made

●Function

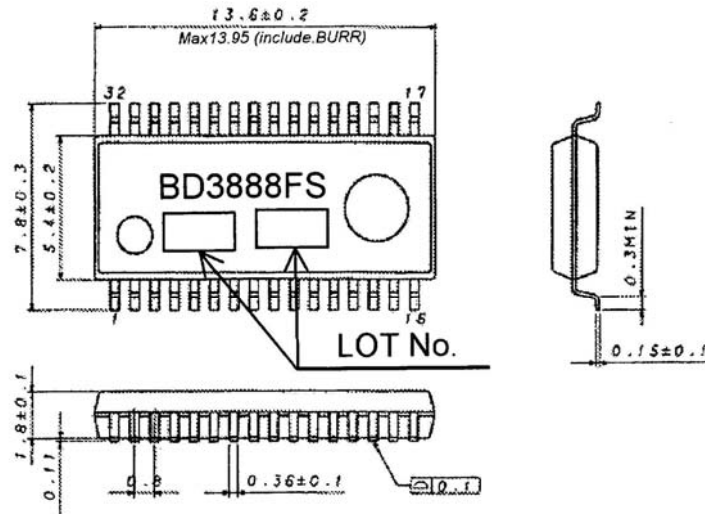
| Function | Specifications |
|--------------|--|
| AGC | 4 step suppression level variable |
| Front volume | 0dB to -87dB (1dB step), -∞dB |
| Surround | Stereo Surround |
| Bass | ±14dB (2dB step) |
| Treble | ±14dB (2dB step) |
| Rear volume | 0dB ~-20dB (2dB step), -25dB, -30dB, -45dB, -60dB, -∞dB (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 | Gv=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 |

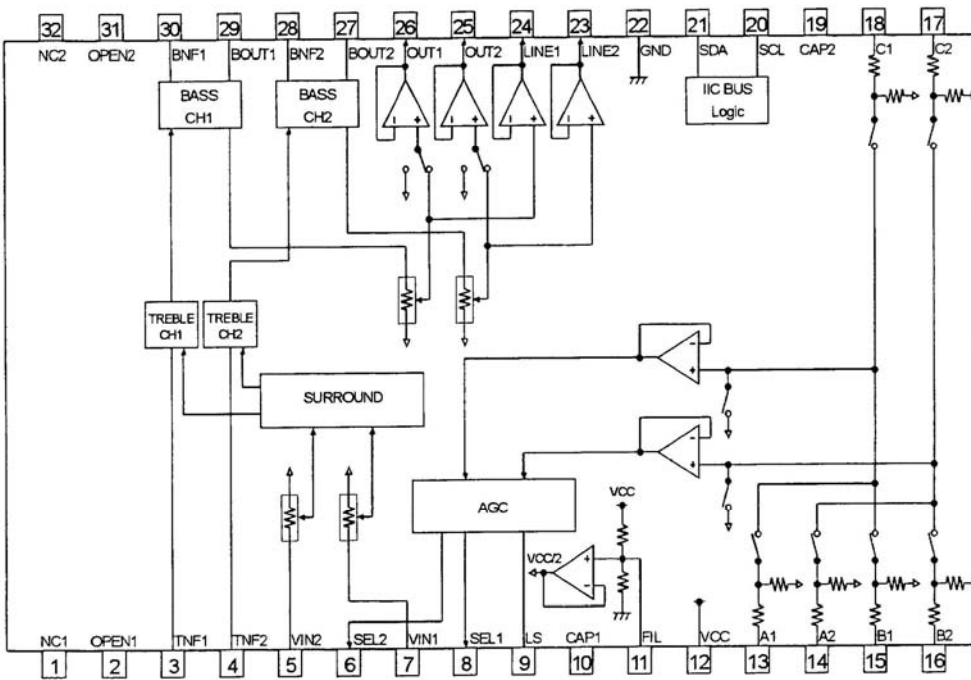
● Dimensional outline drawing



SSOP-A32 (Unit : mm)

● Terminal No. / Terminal Name

● Block diagram



| 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.

Notes

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