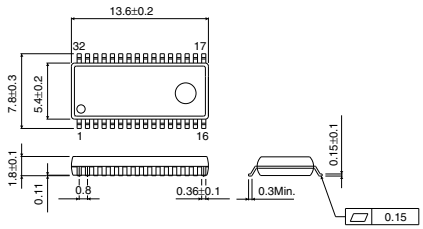
# Sound I/O IC for DVD recorder

# BD3822FS

## ● Description

The BD3822FS is an IC that incorporates 6-input selector, gain amplifier switch, tuner gain switch, volume,√2 compression amplifier for level and ALC circuit. Low distortion and low noise volume can be controlled by $I^2C$ BUS. Soft switching and soft mute function to reduce noise occurred at switching are incorporated. These functions are perfect in designing high-quality sound DVD recorder.

## ● Dimension (Unit : mm)




**SSOP-A32**

## ● Features

1) Low distortion rate (0.0015%) and low noise (2.5μ Vrms) achieved by resistance ladder type volume.
2) Shock noise occurred at switching is reduced by soft switching circuit.
3) Built-in ALC circuit can be used as RF output
4) Perfect for low current consumption and energy saving design due to BiCMOS process
5) Layout terminals for audio input and audio output are located together to arrange the flow of signal in the same direction enabling an easy pattern layout and saving space on the board.

## ● Applications

DVD recorder, Audio appliances

## ● Absolute Maximum Ratings (Ta=25˚C)

| Parameter | Symbol | Limits | Unit |
|---|---|---|---|
| Maximum applied voltage | Vcc | 10.0 | V |
| Power dissipation | Pd | 950 * | mW |
| Operating temperature range | Topr | -40 ~ +85 | ˚C |
| Storage temperature range | Tstg | -55 ~ +125 | ˚C |

*Derating : 9.5mW/˚C for operation above Ta=25˚C

*PCB (70mmx70mm, t=1.6mm) glass epoxy mounting.

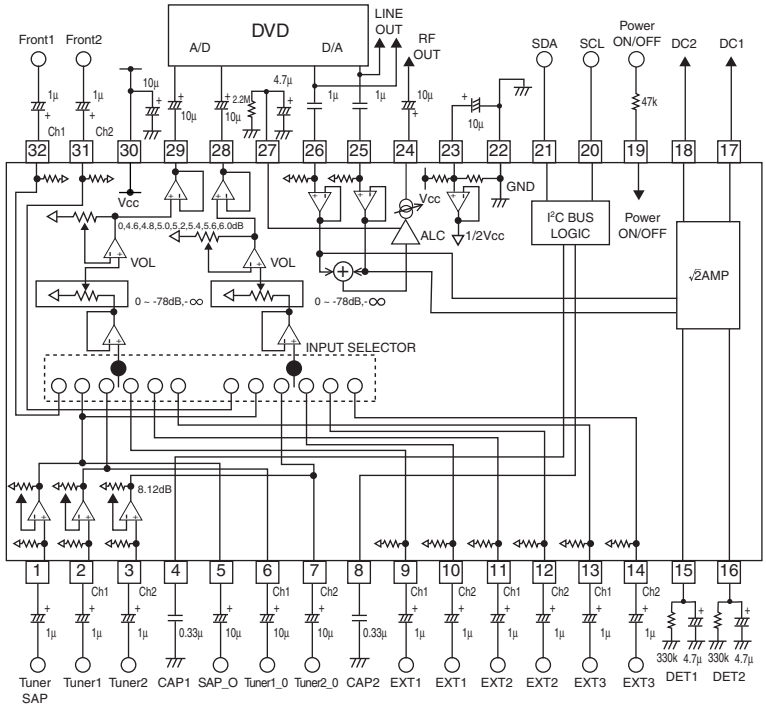
## ● Operating Conditions (Ta=25˚C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Supply voltage | Vcc | 7.0 | 9.0 | 9.5 | V |

● Electrical characteristics (Unless otherwise noted; Ta=25˚C, Vcc=9V)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|---|
| Circuit current at no signal mode | IQ | – | 7 | 30 | mA | $V_{IN}$=0Vrms |
| Standby current | $I_{OFF}$ | – | 540 | 1000 | μA | "Power OFF" MODE |
| Voltage gain | GV | −1.5 | 0 | 1.5 | dB | $G_V$=20log($V_{OUT}/V_{IN}$) |
| Maximum output voltage | $V_{OM}$ | 2.0 | 2.5 | – | Vrms | $V_{OM}$ at THD($V_{OUT}$)=1%, BW=400~30kHz |
| Channel balance | CB | −1.5 | 0 | 1.5 | dB | CB=Gv1−Gv2, Gv1:ch1 Gain, Gv2:ch2 Gain |
| Total harmonic distortion rate | THD | – | 0.0015 | 0.05 | % | $V_{IN}$=2Vrms, Volume=−12dB, Gain Amp=5.6dB, BW=400~30kHz |
| Output noise voltage | $V_{NO}$ | – | 3.2 | 16 | μVrms | Volume=−12dB, Gain Amp=5.6dB, Rg=0Ω, BW=IHF−A |
| Residual noise voltage | $V_{NOR}$ | – | 2 | 10 | μVrms | Volume=−∞dB, Rg=0Ω, BW=IHF−A |
| Closs talk between channels | CTC | – | −110 | −80 | dB | Rg=0Ω, BW=IHF−A |

● Application Circuit



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