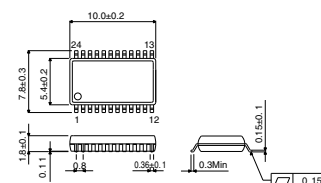


## Sound processor for CD radio cassette player BD3871FS

### ●Description

BD3871FS is a sound processor for CD/MD radio cassette player. This IC provides all functions, such as input selector (3 input sources), an input gain amplifier (25dB, 27dB, 29dB), and a surround, tone (bass, treble). This IC can be controlled by a 2-wire serial data interface.

### ●Dimension (Units : mm)



SSOP-A24

### ●Features

- 1) Can select center frequency and Q value of Bass characteristics by external components.
- 2) Mute switch at the input terminal can reduce cross talk.
- 3) Surround function is composed without external components.
- 4) Ideal for energy-saving designs with low current consumption due to the adoption of the BiCMOS process, allowing easy-design of the regulator blocks in the set.

### ●Applications

CD radio cassette player, MD radio cassette player, Micro component stereo

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

Parameter	Symbol	Limits	Unit
Power supply voltage	Vcc	10	V
Power dissipation	Pd	800	mW
Operating temperature range	Topr	-25 ~ +75	°C
Storage temperature range	Tstg	-55 ~ +125	°C

Derating : 8.0mW/°C for operation above Ta=25°C

### ●Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating voltage	V <sub>DD</sub>	4.5	8	9.5	V

● Electrical characteristics

(Unless otherwise noted ;  $T_a=25^{\circ}\text{C}$ ,  $V_{cc}=8\text{V}$ ,  $f=1\text{kHz}$ ,  $V_i=50\text{mVrms}$ ,  $R_L=10\text{k}$  ,  $R_g=600$  ,  
 INPUT GAIN=24dB, Vol=0dB, bass,treble=0dB, surround=OFF)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Circuit current	I <sub>Q</sub>	—	8	21	mA	No signal
Output voltage gain	G <sub>v</sub>	22	24	26	dB	
Total harmonic distortion	THD	—	0.01	0.1	%	V <sub>OUT</sub> =1Vrms, Bw=400~30kHz
Maximum output voltage	V <sub>omax</sub>	1.6	2.1	—	Vrms	THD=1%, Bw=400~30kHz
Residual noise voltage	V <sub>no</sub>	—	4.5	15	μVrms	R <sub>g</sub> =0 , Vol=• , Bw=IHF-A
Output residual noise voltage	V <sub>mno</sub>	—	40	80	μVrms	R <sub>g</sub> =0 , Vol=0dB, Bw=IHF-A
Volume control range	VRI	-90	-87	-84	dB	V <sub>IN</sub> =1Vrms, 1dB/STEP
Bass control range	GB	+12 -16	+14 -14	+16 -12	dB	V <sub>IN</sub> =100mVrms, 2dB/STEP
Treble control range	TB	+10 -14	+12 -12	+14 -10	dB	V <sub>IN</sub> =100mVrms, 2dB/STEP
Surround gain (Antiphase)	V <sub>sur</sub>	8	10	12	dB	V <sub>IN</sub> =100mVrms

● Application Circuit

