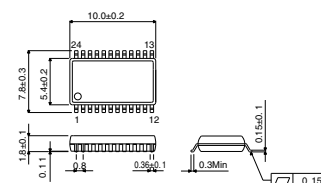


Sound processor for CD radio cassette player BD3871FS

●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)

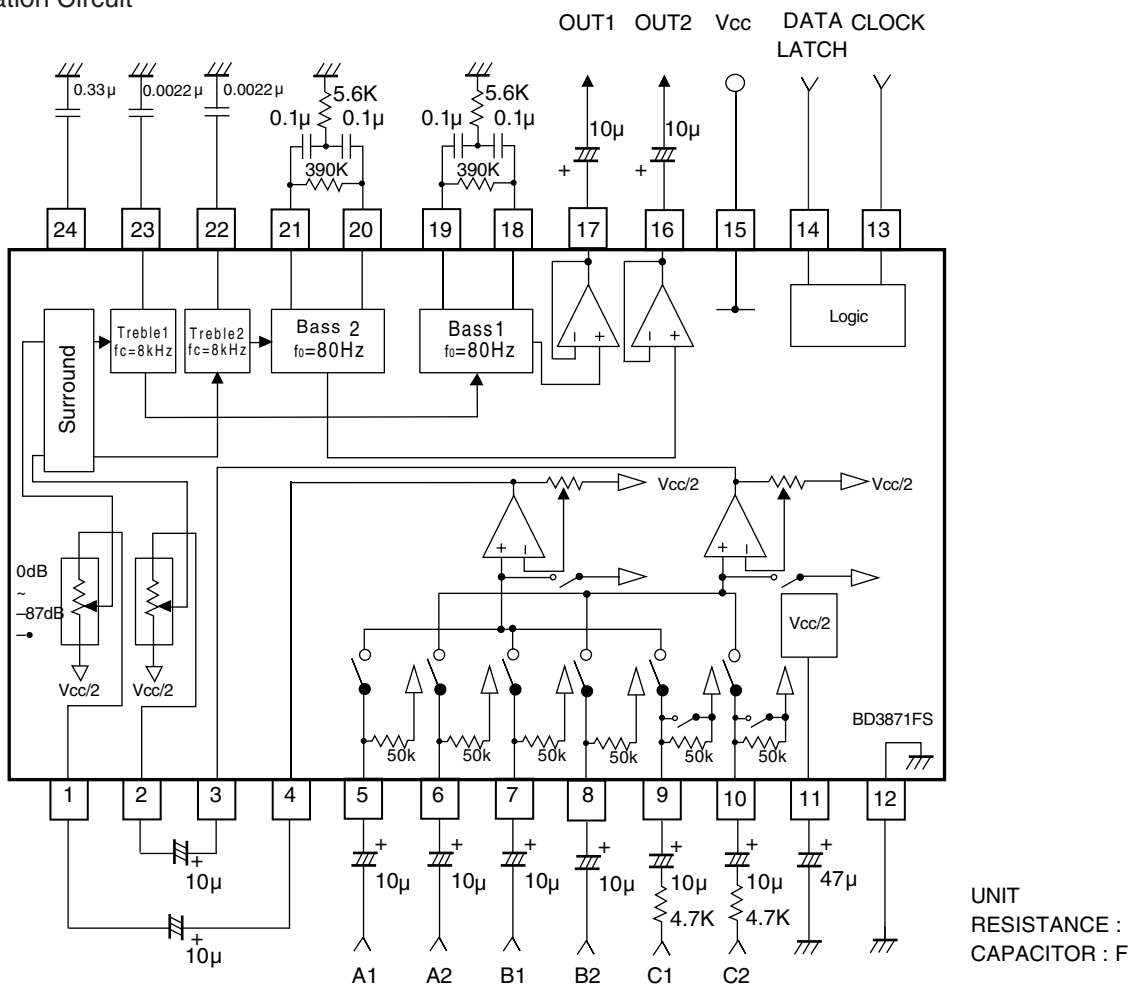
Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating voltage	V _{DD}	4.5	8	9.5	V

● 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, $V_{ol}=0\text{dB}$, bass,treble=0dB, surround=OFF)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Circuit current	I_Q	—	8	21	mA	No signal
Output voltage gain	G_v	22	24	26	dB	
Total harmonic distortion	THD	—	0.01	0.1	%	$V_{OUT}=1\text{Vrms}$, $B_w=400\sim 30\text{kHz}$
Maximum output voltage	V_{omax}	1.6	2.1	—	Vrms	THD=1%, $B_w=400\sim 30\text{kHz}$
Residual noise voltage	V_{no}	—	4.5	15	μVrms	$R_g=0$, $V_{ol}=-\bullet$, $B_w=IHF-A$
Output residual noise voltage	V_{mno}	—	40	80	μVrms	$R_g=0$, $V_{ol}=0\text{dB}$, $B_w=IHF-A$
Volume control range	VRI	-90	-87	-84	dB	$V_{IN}=1\text{Vrms}$, 1dB/STEP
Bass control range	GB	+12 -16	+14 -14	+16 -12	dB	$V_{IN}=100\text{mVrms}$, 2dB/STEP
Treble control range	TB	+10 -14	+12 -12	+14 -10	dB	$V_{IN}=100\text{mVrms}$, 2dB/STEP
Surround gain (Antiphase)	V_{sur}	8	10	12	dB	$V_{IN}=100\text{mVrms}$

● Application Circuit





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