

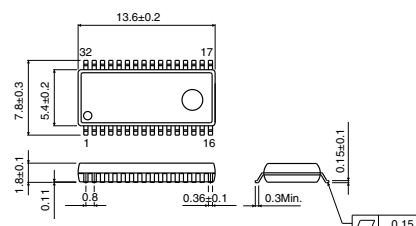
## Sound processor for car audio

# BD3801FS

### Description

The BD3801FS is a sound processor IC for car audio applications. High S/N and low distortion parametric equalizer can be constructed without external capacitor by high-performance switched capacitor filter technology. Soft switch can reduce pop noise at switching volume.

### Dimension( Units: mm )



### Features

- 1 ) Slice the external parts by using switched capacitor circuit.
- 2 ) Reduce the noise of through mode by using tone-pass route. (8  $\mu$  Vrms)
- 3 ) Possible to realize parametric equalizer using 3 band tone, and 2 band tone and loudness.
- 4 ) Built-in ground isolation amplifier input, ideal for external stereo input and monaural input. (1 stereo input and 2 monaural input)
- 5 ) It is using a I<sup>2</sup>C BUS control. Because it is possible to use at the same time in a maximum of two.
- 6 ) BiCMOS process is suitable for the design of low current (Typ.10mA) and low energy.

SSOP-A32

### Applications

Car stereo, Mini component stereo, Micro component stereo, DVD, Personal computer, TV.

### 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 ~ +150	°C

\* Derating : 7.6mW/°C for operation above Ta=25°C PCB (70mm 70mm 1.6mm glass epoxy board)

Notes: I<sup>2</sup>C BUS is a trademark of PHILIPS Incorporated.

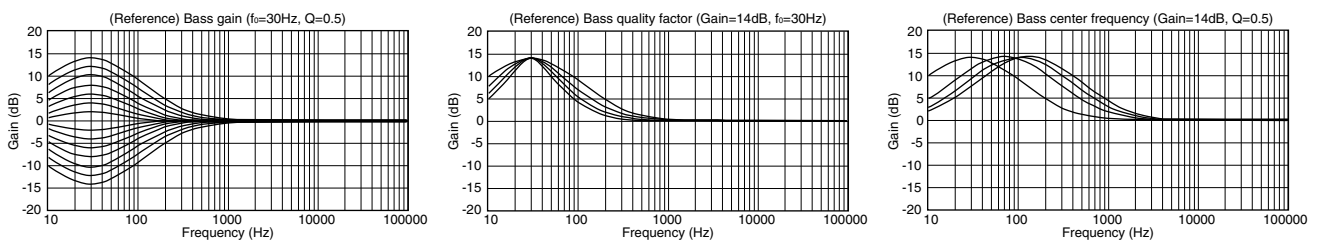
### Recommended Operating Conditions ( Ta=25°C )

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power supply voltage	Vcc	7.0	-	9.5	V

Electrical characteristics ( Unless otherwise noted; Ta=25°C, Vcc=9V, f=1kHz, VIN=Vrms, Rg=600 , Input gain 0dB, Volume 0dB, Tone 0dB, Fader 0dB )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Circuit current at no signal	IQ	-	10	30	mA	VIN=0 μ Vrms
Voltage gain	GV	-1.5	0	1.5	dB	
Channel balance	CB	-1.5	0	1.5	dB	CB=GV1-GV2
Total harmonic distortion rate	THD	-	0.01	0.1	%	VOUT=1Vrms, BW=400-30kHz
Output noise voltage	VND	-	8	26	μ Vrms	Rg=0 , BW=IHF-A
Residual noise voltage	VNCR	-	2	10	μ Vrms	Volume & Fader=- dB, Rg=0 , BW=IHF-A
Cross talk between channels	CTC	-	-90	-80	dB	Rg=0 , BW=IHF-A

### Electrical characteristic curves



### Application Circuit

