2 channel Volume IC

BD3812F

BD3812F is a sound processor IC that has features of volume, and gain amplifier required for AV receiver and mini-component stereo. Up to 4 chips can be used with common bus line by chip select pin.

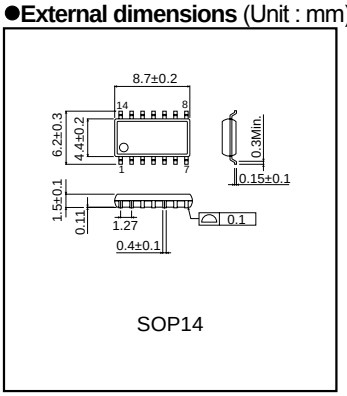
●Applications

AV receiver and mini stereo set.

●Features

1) Volume residual noise : 1.2μ Vrms {Dynamic range : 131dB (IHF-A)}
2) Volume is 2ch-independence. (0 to -103dB, MUTE 1dB / step)
3) BUS is common and be possible to maximum 8channnel-ization of 6ch-Volume IC.
4) It can be controlled until 4 chips with common bus line at the same time.
5) Maximum output voltage : 4.2Vrms (Vcc=7V, V_{EE}=−7V, RL=10kΩ)
6) The serial data control of 2-wire type. (correspond to 3.3V and 5V)
7) Built-in the convenient output gain amp.(0, 6 to 18dB, 2dB / step) for the adjustment of the output signal.
8) Output mute be able to serial data and external mute terminal both.

●External dimensions (Unit : mm)



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●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Impressed voltage	V_{CC}–V_{EE}	15	V
Input voltage	V_{IN}	V_{CC}+0.3 to V_{EE}–0.3	V
Power dissipation	Pd	450 *	mW
Operating temperature	Topr	–20 to +75	˚C
Storage temperature	Tastg	–55 to +125	˚C

* This value decreases 4.5mW/ ˚C for Ta=25˚C or more.
A standard board,70×70×1.6mm, shall be mounted.

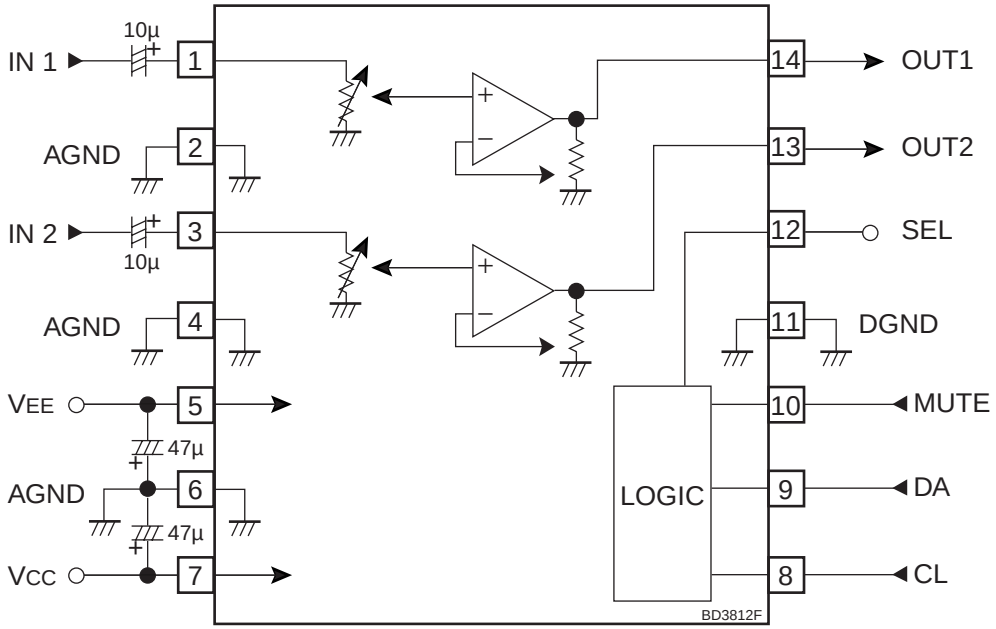
●Operating voltage range (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power supply (Positive)	V_{CC}–GND	5	–	7.3	V
Power supply (Negative)	V_{EE}–GND	–5	–	–7.3	V

●**Electrical Characteristics** (Unless otherwise noted, Ta=25°C, V_{CC}=7V, V_{EE}=-7V, f=1kHz, V_{IN}=1Vrms, RL=10kΩ, Rg=600Ω, Master volume=0dB, Output gain=0dB)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Circuit current (7pin / 5pin)	IQ	–	2	6	mA	No signal
Output voltage gain	GV	–2	0	+2	dB	Measure : Pin13, 14
Total harmonic distortion ratio	THD	–	0.005	0.09	%	Measure : Pin13, 14, BW=400~30kHz
Maximum output voltage	Vomax	3.4	4.2	–	Vrms	Measure : Pin13, 14, THD=1%
Output noise voltage	Vno	–	1.2	5	μVrms	Measure : Pin13, 14, Rg=0Ω, BW=IHF–A
Input impedance	Rin	20	30	40	kΩ	Measure : Pin1, 3
Cross-talk between channels	CTC	–	–100	–70	dB	Measure : Pin13(OUT2), Rg=0Ω, BW=IHF–A, Reference : Pin14(OUT1)=1Vrms
Volume control range	GVR	–106	–103	–100	dB	Measure : Pin13, 14, V_{IN}=3Vrms
Maximum attenuation	Vmin	–	–118	–105	dB	BW=IHF–A, Measure : Pin13, 14, V_{IN}=3Vrms
Output gain control range	GOG	16	18	20	dB	Measure : Pin13, 14, V_{IN}=0.4Vrms

●**Application circuit diagram**



UNIT
CAPACITOR : F

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