High Definition Sound Processor(BBE II)
BD3860K

●Description

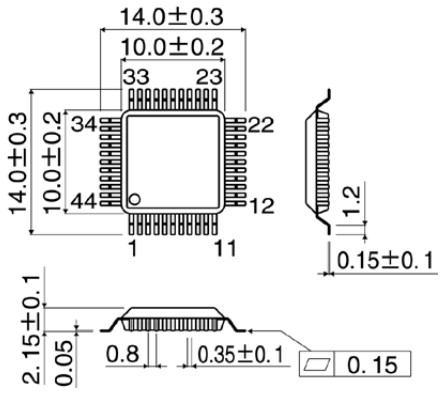
The BD3860K is a sound processor IC for car audio applications.
This IC provides treble clarity through the bass field incorporating BBE II function.
This IC has clarity without increasing volume levels which makes it suitable for car stereo sound systems.

●Features

1) Incorporates BBE II, 4-input selector (4-channel stereo), input gain, main volume, loudness, tone (2-band), fader volume.
2) Resistor ladder volume allows low distortion and low noise through the Bi-CMOS process.
3) 2-wire serial control.
4) Available in and QFP44 package, ideal for compact designs.

●Dimension (Units : mm)

QFP44



●Applications

Car stereos, Mini component stereos, Micro component stereos

●Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V_{CC}	10	V
Power dissipation	Pd	850 *	mW
Operating temperature range	Topr	–40 ~ +85	°C
Storage temperature range	Tstg	–55 ~ +125	°C

* Derating : 8.5mW/°C for operation above Ta=25°C.

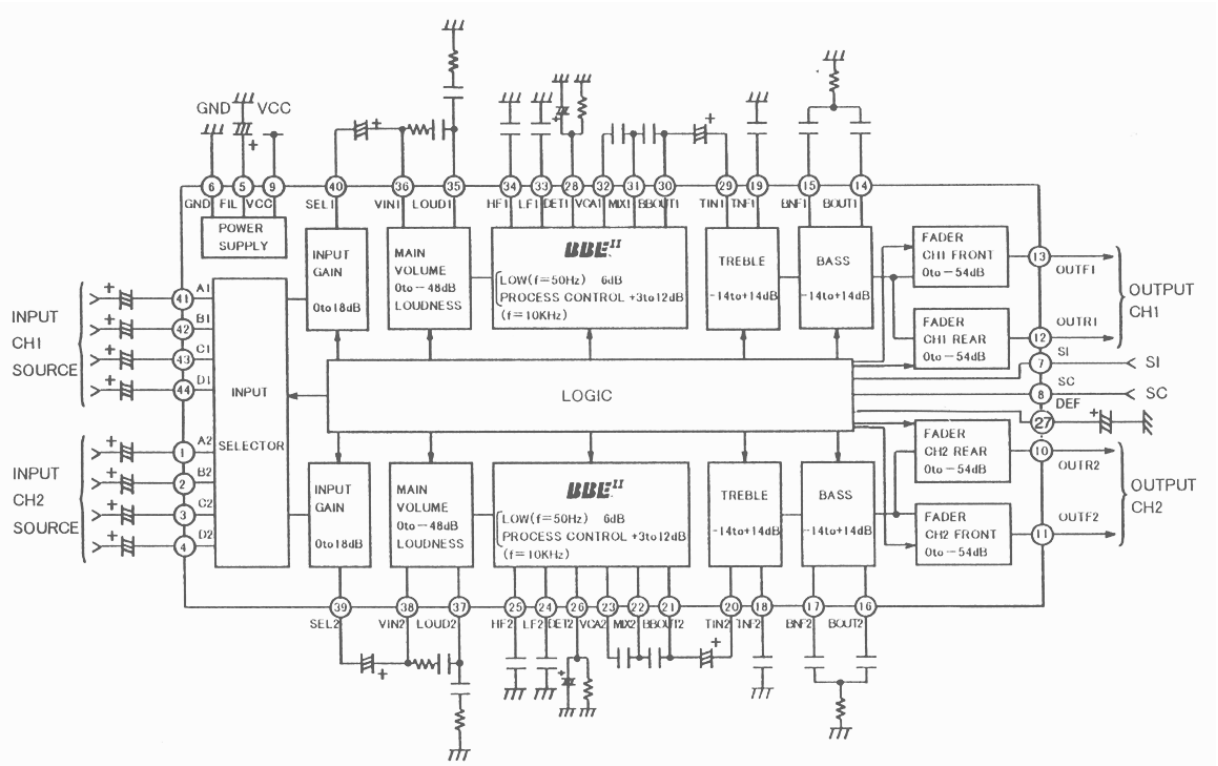
●Recommended Operating Conditions (Ta=25˚C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply voltage	V_{CC}	7.0	—	9.5	V

●Electrical Characteristics (Unless otherwise noted, Ta=25˚C, Vcc= 9V, f=1kHz, RL=10k , Ta=25˚C, Input gain 0dB, Main volume 0dB, BBE Off, Tone 0dB, Fader 0dB)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Quiescent current	IQ	—	20	35	mA	No signal
Output voltage gain	Gv	–1.5	0	1.5	dB	VIN=1Vrms
Total harmonic distortion	THD	—	0.01	0.09	%	400~30KHz, VIN=2Vrms
Maximum output voltage	Vom	2.0	2.5	—	Vrms	THD=1%
Output noise voltage	No	—	5.6	16.8	μVrms	Rg=0 , IHF-A
Crosstalk	CTC	—	–80	–70	dB	Rg=0 , IHF-A
Input resistance	RI	32.9	47	61.1	K	
INPUT Maximum voltage gain	GVI	16.5	18	19.5	dB	VIN=200mVrms
Volume control range	V1R	–50	–48	–46	dB	VIN=1Vrms
Maximum volume attenuation	V1MI	—	–90	–85	dB	IHF-A, VIN=1Vrms
BBEⅡHigh control range	GBBH	10	12	14	dB	f=10KHz, VIN=200mVrms
BBEⅡLOW voltage gain	GBBL	4	6	8	dB	f=50Hz, VIN=200mVrms
Bass control range	GB	±12	±14	±16	dB	VIN=200mVrms, f=77Hz
Treble control range	GT	±12	±14	±16	dB	VIN=200mVrms
Fader control range	V2R	–57	–54	–51	dB	VIN=1Vrms
Maximum fader attenuation	V2MI	—	–90	–85	dB	IHF-A, VIN=1Vrms

●Application circuit



* BBE II is a trade mark of BBE Sound Inc.
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