

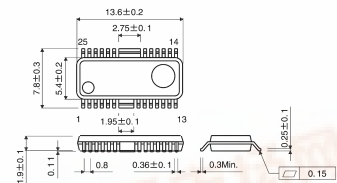


## Headphone/Speaker amplifier for notebook PC BH7821BFP-Y

### Description

The BH7821BFP-Y is a sound amplifier developed for notebook PCs. It includes input for SYSTEM BEEP sound, PM BEEP sound, and SUSPEND function required for the notebook PC. This analog sound device is integrated into a single chip.

### Dimension(Units:mm)



### Features

- 1) Built-in stereo headphone amplifier applicable to mixing input
- 2) Built-in BTL stereo speaker amplifier applicable to mixing input
- 3) Built-in anti-pop circuit when the power is turned ON and OFF
- 4) Built-in electronic volume and mute circuit
- 5) Low power consumption provided by the discrete HALT mode for headphone amplifier and the speaker amplifier (SUSPEND function)
- 6) Provides two systems of BEEP sound input for notebook PCs.
- 7) Applicable to PC' 99

HSOP25

### Applications

Notebook PCs

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

Parameter	Symbol	Limits	Unit
Supply voltage	V <sub>CC</sub>	+6.0	V
Power dissipation	P <sub>d</sub>	1450*	mW
Operating temperature range	T <sub>opr</sub>	-10 ~ 70	°C
Storage temperature range	T <sub>stg</sub>	-55 ~ 150	°C

\*Derating: -11.6mW/°C for operation above Ta=25°C.

\* Mounted on a glass epoxy board (70mm×70mm×1.6mm)



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

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply voltage	V <sub>CC</sub>	+4.5	-	+5.5	V

### Electrical characteristics (Unless otherwise noted, Ta=25°C, HP V<sub>CC</sub>=Sp V<sub>CC</sub>= 5.0V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Circuit current	I <sub>CC</sub>	-	30	50	mA	No input
Circuit current SUSPEND	I <sub>CCS</sub>	-	0.8	1.5	mA	No input, V <sub>H</sub> =V <sub>S</sub> =H
<HP AMP1> INPUT: LINE IN L/R, OUTPUT: HP OUT L/R						
Output voltage level	V <sub>OHP</sub>	-6.3	-4.0	-0.3	dBV	V <sub>IN</sub> =-10.0dBV
Distortion rate	THD <sub>HP</sub>	-	0.02	0.1	%	V <sub>IN</sub> =-10.0dBV, B.W.=0.4~30kHz
Maximum output level	V <sub>OMHP</sub>	0	+2.5	-	dBV	THD=1%, B.W.=0.4~30kHz
<HP AMP2> INPUT: SYSTEM BEEP IN, OUTPUT: HP OUT L/R						
Output voltage level	V <sub>OHP</sub>	0.26	0.32	0.46	V <sub>pp</sub>	V <sub>IN</sub> =5.0V <sub>PP</sub>
<SP AMP1> INPUT: SP IN, OUTPUT: SP OUT L/R						
Output voltage level	V <sub>OSB</sub>	-1.2	+2.0	+4.7	dBV	V <sub>IN</sub> =-10.0dBV
Distortion rate	THD <sub>SP</sub>	-	0.4	1.5	%	V <sub>IN</sub> =-10.0dBV, B.W.=0.4~30kHz
Maximum output level	V <sub>OMSP</sub>	+3.5	+7.0	-	dBV	THD=10%, B.W.=0.4~30kHz
<SP AMP2> INPUT: PM BEEP IN, OUTPUT: SP OUT L/R						
Output level	V <sub>OSB</sub>	-6.5	-4.0	-0.5	dBV	V <sub>IN</sub> =-10.0dBV

V<sub>E</sub> =HP V<sub>CC</sub> (EVR=MAX) V<sub>M</sub> =H (HP MUTE OFF) V<sub>H</sub> =H (HP SUSPEND) V<sub>S</sub> =L (SP SUSPEND) V<sub>L</sub> =L (LINE MIX ON) V<sub>N</sub> =H (STEREO)

### Application circuit

