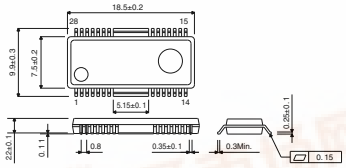
4-channel BTL driver for car CD players

BA5993FP

●Description

The BA5993P incorporates 4-channel drivers that operate the motor and actuator for car CD players. CH1, 2, and CH3, 4 each have power supply independently. The highly efficient drive can be achieved due to the low voltage operation.

●Dimension (Units : mm)



HSOP28

●Features

1) Built-in 3.3V regulator
2) Built-in standard operational amplifier
3) Built-in mute function
   3 lines (CH1,2, CH3 and CH4)
4) Reference voltage can be changed into external input voltage and internal voltage.
5) Built-in thermal shut down circuit

●Applications

Car CD players

●Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power supply voltage	Vcc	18	V
Power dissipation	Pd	1700	mW
Operating temperature range	Topr	–35 ~ +85	°C
Storage temperature range	Tstg	–55 ~ +150	°C

Derating : 13.6mW/°C for operation above Ta=25°C

●Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power supply voltage	Vcc	6	—	14	V

(When the regulator is not used ; 4.5~14V)

● Electrical characteristics

(Unless otherwise noted; Ta=25℃, Vcc=8V, BIAS=1.65V, RL=8)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Current consumption (No signal)	IQ	—	15	23	mA	
Output offset voltage	Voof	–50	0	50	mV	
Maximum output voltage (CH1,2)	VOM1	5.0	5.6	—	V	
Maximum output voltage (CH3,4)	VOM2	5.7	6.3	—	V	
Voltage gain (CH1,2,3)	GVC1	15.5	17.5	19.5	dB	VIN=±0.5V, BCONT='H'
Voltage gain (CH4)	GVC4	21.5	23.5	25.5	dB	VIN=±0.2V, BCONT='H'
		15.5	17.5	19.5	dB	VIN=±0.2V, BCONT='L'
Regulator output voltage	VREG	3.0	3.3	3.6	V	IREG=25mA
Op-amp. offset voltage	VOFOP	–6	0	6	mV	
Op-amp. high level voltage	VOHOP	7.5	7.9	—	V	
Op-amp. low level voltage	VOLOP	—	0.1	0.3	V	

● Application Circuit