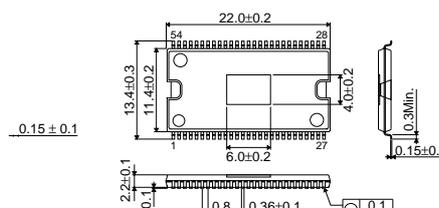


6-channel Driver with 3.3V Regulator BA5801FS

● Description

The BA5801FS is a 6-channel BTL driver for the actuator and motor driver of a CD player. Three channels include internal filters which allow for direct coupling of the digital servo LSI PWM output, without the need for any external components. Since power supply terminals of 2-channel Loading driver are separated, It can be operated by only Loading driver.

● Dimension (Units:mm)



SSOP-A54

● Features

- 1) 6-channel BTL driver (2-channels Loading Driver.) includes 3.3V regulator (PNP-Tr is needed outside.)
- 2) Three channels include internal filters which allow for direct coupling of PWM output.
- 3) Filter constant can be variable by external RC.
- 4) 1-channel includes operational amplifier (input)
- 5) Loading driver can be operated by only LDVcc(Pin.51, Isolated power supply) since its structure is different from other blocks.
- 6) Loading driver output can be set up by voltage establishment terminal.
- 7) By separating Vcc into Pre and Power makes for improved power efficiency.
- 8) Driver mute function(4-channels except loading and regulator mute)
- 9) Thermal protection circuit built-in

● Applications

CD, Video-CD

● Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V _{CC}	18	V
Power dissipation	P _d	1.92 *	W
Operating temperature range	T _{opr}	-35 ~ +85	°C
Storage temperature range	T _{stg}	-55 ~ +150	°C

*Derating: 15.36mW/°C for operation above Ta=25°C.

● Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power supply voltage	PreVcc	6	—	13.5	V
	LDVcc	4.5	—	13.5	V
	PowVcc	6	—	PreVcc	V

● Electrical characteristics (Unless otherwise noted, Ta=25°C, Vcc=8V, R_L=8Ω)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions		
<Circuit current>								
Quiescent current (Pre)	I _Q	–	28	38	mA	No load, LDVCC=0V		
Quiescent current (Loading)	I _{QLD}	–	5	13	mA	No load, VCC=PowVCC=0V		
<Driver CH1~CH3>								
Maximum output voltage	FWD	VOMF	4.4	5.0	5.6	V	INF=H, INR=L	
	REV	VOMR	-5.6	-5.0	-4.4	V	INF=L, INR=H	
Smooth time constant of output voltage	t _r	T _{tr}	–	2	–	V/μS	Leading edge	
	t _f	T _{tf}	–	1.5	–	V/μS	Trading edge	
<Spindle Driver>								
Maximum output voltage	VOMS	5.0	5.6	–	V			
Voltage gain	GVC	10	12	14	dB			
<Spindle pre OP-AMP>								
Common mode input voltage range	V _{ICM}	0	–	PreVcc	V			
Output voltage range	HIGH	V _{OHOP}	PreVcc	PreVcc	–	V		
	LOW	V _{OLOP}	–	0.1	0.3	V		
Maximum output current	SOURCE	I _{OSO}	500	800	–	μA		
	SINK	I _{OSI}	1	–	–	mA		
<Loading Driver>								
Output voltage 1 (Setting time)	FWD	V _{OL1F}	2.4	3.0	3.6	V	LDCONT=1.7V	LDINF=H, LDINR=L
	REV	V _{OL1R}	-3.6	-3.0	-2.4	V		LDINF=L, LDINR=H
Output voltage 2 (Maximum)	FWD	V _{OL2F}	5.0	5.6	–	V	LDCONT=4.5V	LDINF=H, LDINR=L
	REV	V _{OL2R}	–	-5.6	-5.0	V		LDINF=L, LDINR=H
Load regulation 1	FWD	ΔV _{OL1F}	–	100	500	mV	LDCONT=1.7V	IL=100~500mA
	REV	ΔV _{OL1R}	–	100	500	mV		
<Regulator>								
Output voltage	V _{REG}	3.15	3.3	3.45	V	I _L =50mA		
Load regulation	ΔV _{ILR}	-50	0	20	mV	I _L =0~200mA		
Line regulation	ΔV _{VSR}	-20	0	50	mV	Vcc=6~13V		

● Application circuit

