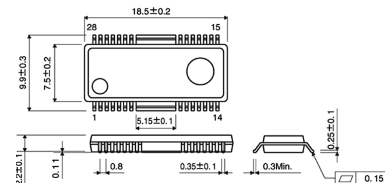


## 4-Channel BTL driver BA5994FM

### ● Description

The BA5994FM is a 4-channel BTL driver for an actuator and motor driver of CD/CD-ROM. (Inputs for the driver connect to an operational amplifier and it is compatible with various applications.)  
Channel 2&3 include a short-brake function.

### ● Dimension (Units:mm)



### ● Features

- 1) 4-channel BTL driver
- 2) Wide dynamic range (4V typical at PreVcc=12V, PowVcc=5V, RL=8 )
- 3) Built-in thermal shut down circuit
- 4) Separating Vcc into Pre and Power (Power divides into Channel1&2 and Channel 3&4) makes for improved power efficiency, by a lower supply voltage drive
- 5) Mute operated individually with Channel 4 and Channel 1&2&3
- 6) All channels are mute in standby mode
- 7) Suitable for low operation voltage DSP by wide dynamic range pre operational amplifier.
- 8) Built-in short-brake circuit (Channel 2&3)

HSOP-M28

### ● Applications

CD, CD-ROM

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

Parameter	Symbol	Limits	Unit
Supply voltage	PREVcc, POWVcc	13.5	V
Power dissipation	Pd	2.2 *1	W
Output current	IoMAX	1 *2	A
Operating temperature range	Topr	-35 ~ +85	°C
Storage temperature rang	Tstg	-55 ~ +150	°C

\*1 On less than 3% (percentage occupied by copper foil), 70mm×70mm, t=1.6mm, glass epoxy mounting.  
Derating: 17.6mW/°C for operation above Ta=25°C

\*2 The output current must not exceed the maximum ASO.

● Recommended Operating Conditions (Ta=25 °C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply voltage	PREV <sub>CC</sub>	4.5	-	13.2	V
	POWV <sub>CC</sub>	4.5	-	PREV <sub>CC</sub>	V

● Electrical characteristics

(Unless otherwise noted, Ta=25 °C, PreVcc=12V, PowVcc1=5V, PowVcc2=5V, V<sub>BIAS</sub>=1.65V, V<sub>RL</sub>=8 )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Quiescent current	I <sub>Q</sub>	-	20	30	mA	No load
All Channel Standby Current	I <sub>QST3</sub>	-	-	1	mA	No load (Pre circuit current)
<Driver block>						
Output offset voltage	VOOF	70	0	70	mV	
Maximum output voltage 1	VOM1	3.6	4.0	-	V	CH1, 2 VIN=V <sub>BIAS</sub> 1.65V
Maximum output voltage 2	VOM2	7.5	9	-	V	CH3, 4 VIN=V <sub>BIAS</sub> 1.65V*
Closed loop voltage gain 1	GVC1	10	12	14	dB	CH1, 2 VIN=V <sub>BIAS</sub> 0.5V
Closed loop voltage gain 2	GVC2	16	18	20	dB	CH3, 4 VIN=V <sub>BIAS</sub> 0.5V*
<Pre operational amplifier>						
Input offset voltage	VOFOP	6	0	6	mV	
Input bias current	VBOP	-	-	300	nA	
High level output voltage	VOHOP	9	11	-	V	V <sub>BIAS</sub> =6V
Low level output voltage	VOLOP	-	-	0.3	V	V <sub>BIAS</sub> =6V
Output sink current	ISI	1	-	-	mA	Output to PreVcc by 50 ,V <sub>BIAS</sub> =6V
Output source current	ISO	300	500	-	A	Output to GND by 50 ,V <sub>BIAS</sub> =6V

○ This product is not designed for protection against radioactive rays. \* PowVcc1=PowVcc2=12V

● Application circuit

