

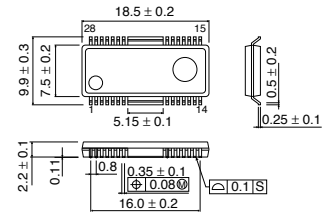
## IC for Compact Disc Players

# BA5947FP

### ● Description

The BA5947FP is a 4-channel BTL driver developed for compact disc players. 3 out of 4 channels are PWM input direct connection type and incorporate primary filter.

### ● Dimension (Unit : mm)



### ● Features

- 1) 4-channel BTL driver
- 2) Set space saving by adoption of HSOP28
- 3) Built-in OP amp.
- 4) Wide dynamic range
- 5) Built-in thermal shutdown circuit
- 6) High efficient supply voltage setting due to independent supply (Pre Vcc, Pow Vcc of CH1, CH2 and Pow Vcc of CH3, CH4)
- 7) For CH4, input pin can be switched by SW pin

### ● Applications

Compact disc players, Other optical disc appliances

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

| Parameter                   | Symbol | Limits     | Unit |
|-----------------------------|--------|------------|------|
| Supply voltage              | Vcc    | 13.5       | V    |
| Power dissipation           | Pd     | 1.7 *      | W    |
| Operating temperature range | Topr   | -35 ~ +85  | °C   |
| Storage temperature range   | Tstg   | -55 ~ +150 | °C   |

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

\*On less than 3% (percentage occupied by copper foil), PCB (70mmx70mm, t=1.6mm) glass epoxy mounting.

### ● Operating power supply voltage range (Ta=25°C)

| Parameter | Min. | Typ. | Max.    | Unit |
|-----------|------|------|---------|------|
| Pre Vcc   | 6.0  | —    | 13.2    | V    |
| Pow Vcc   | 6.0  | —    | Pre Vcc | V    |

● Electrical characteristics (Unless otherwise noted; Ta=25°C, Vcc=8V, RL=8Ω, Vb=VOP±1.75V)

| Parameter                                | Symbol  | Min. | Typ. | Max. | Unit | Conditions   |
|------------------------------------------|---------|------|------|------|------|--------------|
| Quiescent dissipation current            | Iq      | —    | 17.0 | 25.0 | mA   | No load      |
| Internal Vref pin voltage                | VREF    | 3.40 | 3.70 | 4.00 | V    |              |
| <Driver except spindle driver (CH1,2,3)> |         |      |      |      |      |              |
| Output offset voltage                    | VOO     | −30  | —    | 30   | mV   |              |
| Maximum output amplitude                 | VOM     | 4.4  | 5.0  | 5.6  | V    | Vf=5V, Vr=0V |
| Spindle driver (CH4)                     |         |      |      |      |      |              |
| Output offset voltage                    | VOO4    | −50  | —    | 50   | mV   | VIN4=Vb      |
| Maximum output amplitude                 | VOM     | —    | 5.4  | —    | V    | Vb=4V        |
| Voltage gain                             | GVC     | 9.3  | 11.3 | 13.3 | dB   |              |
| <OP amp.>                                |         |      |      |      |      |              |
| Offset voltage                           | VOFOP   | −5   | 0    | 5    | mV   |              |
| Output driving current sink              | Isink   | 2.0  | 9.0  | —    | mA   |              |
| Output driving current source            | ISOURCE | 7.0  | 13.0 | —    | mA   |              |

● Application Circuit

