

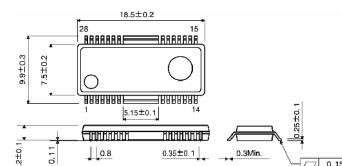
## 3-Phase Motor Driver For CD-ROM/R-RW,DVD-ROM/RAM

# BA6668FM

### ● Description

The BA6668FM is a motor driver developed for CD-R RW spindle motors. This IC has a junction temperature alarm pin, a gain switch and a limit switch pin. A power save, thermal shut down, current limit, rotation detector, and a reverse protection circuit are all included. Gain and Limit can be switched by the control pin.

### ● Dimension (Units:mm)



### ● Features

- 1)3-phase, full-wave pseudo linear driving system
- 2)Built-in power save, thermal shut down circuit
- 3)Built-in current limit, Hall Bias circuit
- 4)Built-in FG-output, FG3-phase synthesized output
- 5)Built-in rotation detector
- 6)Built-in reverse protection circuit
- 7)Built-in Limit switch and Gain switch pin
- 8)Built-in Short Brake pin
- 9)Built-in junction temperature alarm pin
- 10)Suitable for 3.3V DSP

HSOP-M28

### ● Applications

CD-R/RW, DVD-ROM/RAM, CD-ROM

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

| Parameter                   | Symbol           | Limits                  | Unit |
|-----------------------------|------------------|-------------------------|------|
| Supply voltage              | V <sub>CC</sub>  | 7                       | V    |
| Supply voltage              | V <sub>M</sub>   | 15                      | V    |
| Power dissipation           | P <sub>d</sub>   | 2200 <sup>1</sup>       | mW   |
| Operating temperature range | T <sub>opr</sub> | -20 ~ +75               | °C   |
| Storage temperature range   | T <sub>stg</sub> | -55 ~ +150 <sup>2</sup> | °C   |
| Maximum output current      | I <sub>out</sub> | 1500 <sup>2</sup>       | mA   |

<sup>1</sup> Derating : 17.6mW/°C for operation above Ta=25°C.

70mm 70mm 1.6mm glass epoxy board.

<sup>2</sup> Do not, however exceed P<sub>d</sub>, ASO and T<sub>j</sub>=150°C

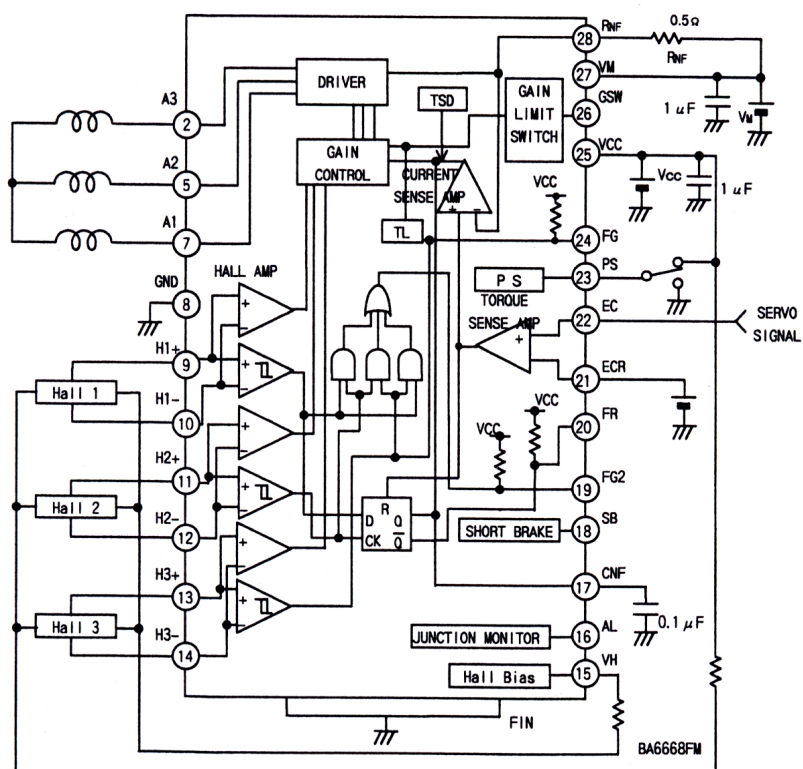
● Recommended Operating Conditions (Ta=25°C)

| Parameter                      | Symbol   | Limits    | Unit |
|--------------------------------|----------|-----------|------|
| Operating supply voltage range | $V_{CC}$ | 4.5 ~ 5.5 | V    |
|                                | $V_M$    | 3.0 ~ 14  | V    |

● Electrical characteristics (Unless otherwise noted, Ta=25°C, VCC= 5V, VM= 12V)

| Parameter                    | Symbol            | Min. | Typ. | Max. | Unit | Conditions                   |
|------------------------------|-------------------|------|------|------|------|------------------------------|
| Circuit current 1            | I <sub>CC1</sub>  | —    | 0.3  | 0.6  | mA   | PS=L, GSW=OPEN               |
| Circuit current 2            | I <sub>CC2</sub>  | 5.2  | 7.5  | 9.8  | mA   | PS=H, GSW=OPEN               |
| Input-output gainL           | G <sub>ECL</sub>  | 0.28 | 0.35 | 0.42 | A/V  | R <sub>NF</sub> =0.5 ,GSW=L  |
| Input-output gain M          | G <sub>ECM</sub>  | 0.56 | 0.70 | 0.84 | A/V  | R <sub>NF</sub> =0.5 ,GSW=M  |
| Input-output gain H          | G <sub>ECH</sub>  | 1.12 | 1.40 | 1.68 | A/V  | R <sub>NF</sub> =0.5 ,GSW=H  |
| Torque limit current1        | I <sub>TL1</sub>  | 300  | 400  | 500  | mA   | R <sub>NF</sub> =0.5z ,GSW=L |
| Torque limit current2        | I <sub>TL2</sub>  | 510  | 600  | 690  | mA   | R <sub>NF</sub> =0.5 ,GSW=M  |
| Torque limit current3        | I <sub>TL3</sub>  | 1020 | 1200 | 1380 | mA   | R <sub>NF</sub> =0.5 ,GSW=H  |
| Alarm ON temperature         | T <sub>ALON</sub> | 120  | 135  | 150  | °C   |                              |
| Alarm hysteresis temperature | T <sub>ALH</sub>  | 10   | 15   | 20   | °C   |                              |

- Application circuit



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