

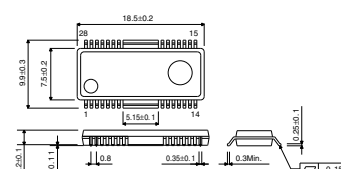
## Spindle motor driver IC for CD-ROM/RW

# BD6665FM

### ●Description

The BD6665FM has achieved high-efficiency and low power consumption due to the adoption of MOSFET output and direct PWM drive. Power save circuit, current limit circuit, FG three-phase synthesis output, hall bias, reverse protection circuit, short brake SW, and rotation direction detection terminal are incorporated. The result is a multi-function and high-performance IC.

### ●Dimension (Units : mm)



### ●Features

- 1) Direct PWM drive
- 2) Built-in power save circuit
- 3) Built-in current limit circuit
- 4) Built-in FG three-phase synthesis output
- 5) Built-in hall bias
- 6) Built-in reverse protection circuit
- 7) Low power consumption due to MOSFET output
- 8) Built-in short brake SW
- 9) Built-in rotation direction detection terminal

HSOP-M28

### ●Applications

CD-ROM/RW

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

Parameter	Symbol	Limits	Unit
Applied voltage (5V for power supply)	V <sub>CC</sub>	7	V
Applied voltage (for motor supply)	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
Output current	I <sub>OMAX</sub>	3000 <sup>*2</sup>	mA

\*1 Mounted on a glass epoxy board (70mm×70mm×1.6mm)

\*1 Derating:17.6mW/°C for operation above Ta=25°C.

\*2 Do not exceed Pd, ASO and Tj=150°C.

● Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating power supply voltage range	V <sub>CC</sub>	4.5	—	5.5	V
	V <sub>M</sub>	3	—	14	V

● Electrical characteristics (Unless otherwise noted ; Ta=25°C, V<sub>CC</sub>=5V, V<sub>M</sub>=12V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Circuit current 1	I <sub>CC1</sub>	—	—	0.2	mA	Stand-by mode
Circuit current 2	I <sub>CC2</sub>	3.0	7.5	14	mA	
Power save ON voltage	V <sub>PSON</sub>	—	—	1.0	V	Stand-by mode
Power save OFF voltage	V <sub>PSOFF</sub>	2.5	—	—	V	
Input bias current	I <sub>HA</sub>	-8.0	-1.8	—	μA	
Minimum input level	V <sub>INH</sub>	60	—	—	mV <sub>pp</sub>	
Offset voltage (+)	E <sub>COFS+</sub>	10	40	70	mV	
Offset voltage (-)	E <sub>COFS-</sub>	-70	-40	-10	mV	
Output ON resistance	R <sub>ON</sub>	—	0.7	1.0	Ω	I <sub>o</sub> =±600mA (Upper+Lower)
Output limit voltage	V <sub>TL</sub>	0.15	0.21	0.27	V	R <sub>NF</sub> =0.33Ω

● Application Circuit

