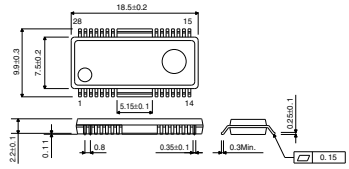
Spindle motor driver IC for CD-ROM/RW
BD6665FM

●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)



HSOP-M28

●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

●Applications

CD-ROM/RW

●Absolute Maximum Ratings (Ta=25˚C)

Parameter	Symbol	Limits	Unit
Applied voltage (5V for power supply)	Vcc	7	V
Applied voltage (for motor supply)	V_M	15	V
Power dissipation	Pd	2200 *1	mW
Operating temperature range	Topr	–20 ~ +75	˚C
Storage temperature range	Tstg	–55 ~ +150 *2	˚C
Output current	I_{OMAX}	3000 *2	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_{CC}	4.5	—	5.5	V
	V_M	3	—	14	V

● Electrical characteristics (Unless otherwise noted ;Ta=25˚C, Vcc=5V, V_M=12V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Circuit current 1	Icc1	—	—	0.2	mA	Stand-by mode
Circuit current 2	Icc2	3.0	7.5	14	mA	
Power save ON voltage	V_{PSON}	—	—	1.0	V	Stand-by mode
Power save OFF voltage	V_{PSOFF}	2.5	—	—	V	
Input bias current	I_{HA}	–8.0	–1.8	—	μA	
Minimum input level	V_{INH}	60	—	—	mVpp	
Offset voltage (+)	$Ecofs_+$	10	40	70	mV	
Offset voltage (–)	$Ecofs_-$	–70	–40	–10	mV	
Output ON resistance	R_{ON}	—	0.7	1.0	Ω	Io=±600mA (Upper+Lower)
Output limit voltage	V_{TL}	0.15	0.21	0.27	V	R_{NF}=0.33Ω

● Application Circuit