

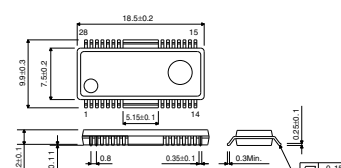
Spindle motor driver IC for CD-ROM/RW

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 _{CC}	7	V
Applied voltage (for motor supply)	V _M	15	V
Power dissipation	P _d	2200 *1	mW
Operating temperature range	T _{opr}	-20 ~ +75	°C
Storage temperature range	T _{stg}	-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 P_d, A_{SO} and T_j=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, V_{CC}=5V, V_M=12V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Circuit current 1	I _{CC1}	—	—	0.2	mA	Stand-by mode
Circuit current 2	I _{CC2}	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	—	—	mV _{pp}	
Offset voltage (+)	E _{cofs+}	10	40	70	mV	
Offset voltage (-)	E _{cofs-}	-70	-40	-10	mV	
Output ON resistance	R _{ON}	—	0.7	1.0	Ω	I _o =±600mA (Upper+Lower)
Output limit voltage	V _{TL}	0.15	0.21	0.27	V	R _{NF} =0.33Ω

● Application Circuit

