

3-phase Motor Driver for DVD-ROM Spindle Motors BD6663FM

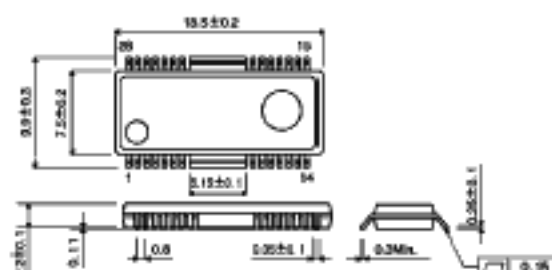
●Description

The BD6663FM is a motor driver developed for high-speed CD-ROM and DVD-ROM applications that requires low power consumption and low heating. This is accomplished by applying PMOS Tr/DMOS Tr to Tr output and PWM operation.

●Features

- 1) Direct PWM driver
- 2) Built-in power saving circuit
- 3) Built-in current limit circuit
- 4) Built-in FG output
- 5) Built-in Hall bias
- 6) Built-in reverse protection circuit
- 7) Low power consumption by MOSFET
- 8) Built-in short brake SW pin
- 9) Built-in rotation direction detect terminal

●Dimension (Units : mm)



HSOP-M28

●Applications

DVD-ROM, DVD-RAM, CD-ROM, CD-R • RW

●Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage (For 5V voltage source)	V _{CC}	7	V
Supply voltage (For motor voltage source)	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}	2000 ²	mA

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

Mounting on 70mm 70mm 1.6mm glass epoxy board.

² Do not, however exceed P_d, ASO and T_J=150°C.

●Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating supply voltage range	V _{CC}	4.5	—	5.5	V
	V _M	3	—	14	V

●Electrical characteristics (Unless otherwise noted, $T_a=25^{\circ}\text{C}$, $V_{CC}=5\text{V}$, $V_M=12\text{V}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
<Total>						
Circuit current 1	I_{CC1}	—	—	0.2	mA	Stand-by mode
Circuit current 2	I_{CC2}	—	7.5	—	mA	
<POWER SAVE>						
ON voltage range	V_{PSON}	—	—	1.0	V	Stand-by mode
OFF voltage range	V_{PSOFF}	2.5	—	—	V	
<Short brake SW>						
ON voltage range	V_{SBCON}	2.5	—	—	V	Short brake
OFF voltage range	V_{SBOFF}	—	—	1.0	V	
<Output>						
Output ON resistance	R_{ON}	—	0.6	0.9		$I_O=\pm 600\text{mA}$ (Upper+Lower)
Torque limit voltage	V_{TL}	—	0.20	—	V	$R_{NF}=0.33$

●Block Diagram

