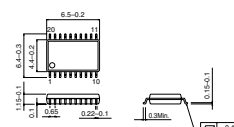


## Spindle Motor Driver for CD/MD BD6609FV

### ● Description

The BD6609FV is a CD/MD spindle motor driver employing a 3-phase, full-wave, soft switching, driving system. This motor driver reduces switching noise of the output current and enables for smooth motor rotation.

### ● Dimension (Units:mm)



### ● Features

- 1) Switching noise reduced due to a soft switching driving system
- 2) Sensorless driving system allows for a small set design
- 3) Built-in start, brake, and standby function
- 4) FG signal output function (with built-in "chatter" prevention circuit)
- 5) Built-in Thermal Shutdown (TSD) circuit

SSOP-B20

### ● Applications

CD, MD

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

Parameter	Symbol	Limits	Unit
Power supply voltage	V <sub>CC</sub>	7	V
Power dissipation	P <sub>d</sub>	800 *	mW
Operating temperature range	T <sub>opr</sub>	-30 ~ +80	°C
Storage temperature range	T <sub>stg</sub>	-55 ~ +150	°C
Output current	I <sub>OMAX</sub>	700	mA

\* Derating: 6.4mW/°C for operation above Ta=25°C.

#### ● Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power supply voltage	V <sub>CC</sub>	2.4	—	6.5	V

● Electrical characteristics (Unless otherwise noted,  $T_a=25^\circ\text{C}$ ,  $V_{cc}=3.4\text{V}$ ,  $V_M=0.3\text{V}$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Circuit current	$I_{ccs}$	—	10	35	$\mu\text{A}$	STBY=L
	$I_{cc}$	—	11	15	$\text{mA}$	STBY=H $I_M=20\text{mA}$
Output saturation voltage H1	VOH1	—	0.85	1	V	$V_M=V_{CC}$ $I_o=400\text{mA}$
Output saturation voltage H2	VOH2	—	0.2	0.35	V	$V_M=V_{CC}-1\text{V}$ $I_o=400\text{mA}$
Output saturation voltage L	VOL	—	0.25	0.35	V	$I_o=400\text{mA}$
~Rotor position detection pin~						
Input offset voltage	VCO	-10	—	+10	mV	
~Standby pin~						
Input current	IST	—	115	155	$\mu\text{A}$	STBY= $V_{CC}$
Input "H" level voltage	VSTH	2	—	$V_{CC}$	V	
Input "L" level voltage	VSTL	—	—	0.3	V	
~FG pin~						
Output "L" voltage	VOLF	—	0.1	0.25	V	$I_o=500\mu\text{A}$
Pull up resistance	RBF	10	20	30	$\Omega$	

\* This product is not designed for protection against radioactive rays.

● Block Diagram

