Power driver for portable CD
BH6541KV

●Description

BH6541KV is a 3chPWM driver + 1ch sensorless spindle driver developed for driving motor and actuator of portable CD,MD. Lower power consumption can be achieved in the set by applying the power MOSFET. In addition, the size reduction in the set can be accomplished by using the VQFP48 package.

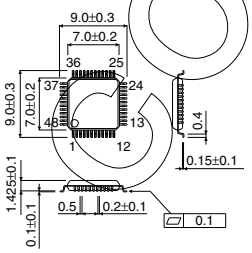
●Features

<PWM driver: 3ch>
1) Digital input, Direct PWM driving system
<Spindle driver>
1) 3-phase full-wave sensorless driving system
2) Built-in start and brake function
3) Built-in half-bridge driver for power supply

●Applications

Portable CD, MD

●Dimension (Units : mm)



VQFP48

●Absolute Maximum Ratings (Ta=25˚C)

Parameter	Symbol	Limits	Unit
Control circuit supply voltage	Vcc	7	V
Power block supply voltage	PVCC	7	V
Pre-driver supply voltage	VG (19pin)	9	V
Power dissipation	Pd	1.12*	W
Operating temperature range	Topr	–30 ~ +85	˚C
Storage temperature range	Tstg	–55 ~ +150	˚C

*Derating : 9.0mW/˚C for operation above Ta=25˚C
On less than 3% (percentage occupied by copper foil),70mmx70mm, t=1.6mm, glass epoxy mounting.

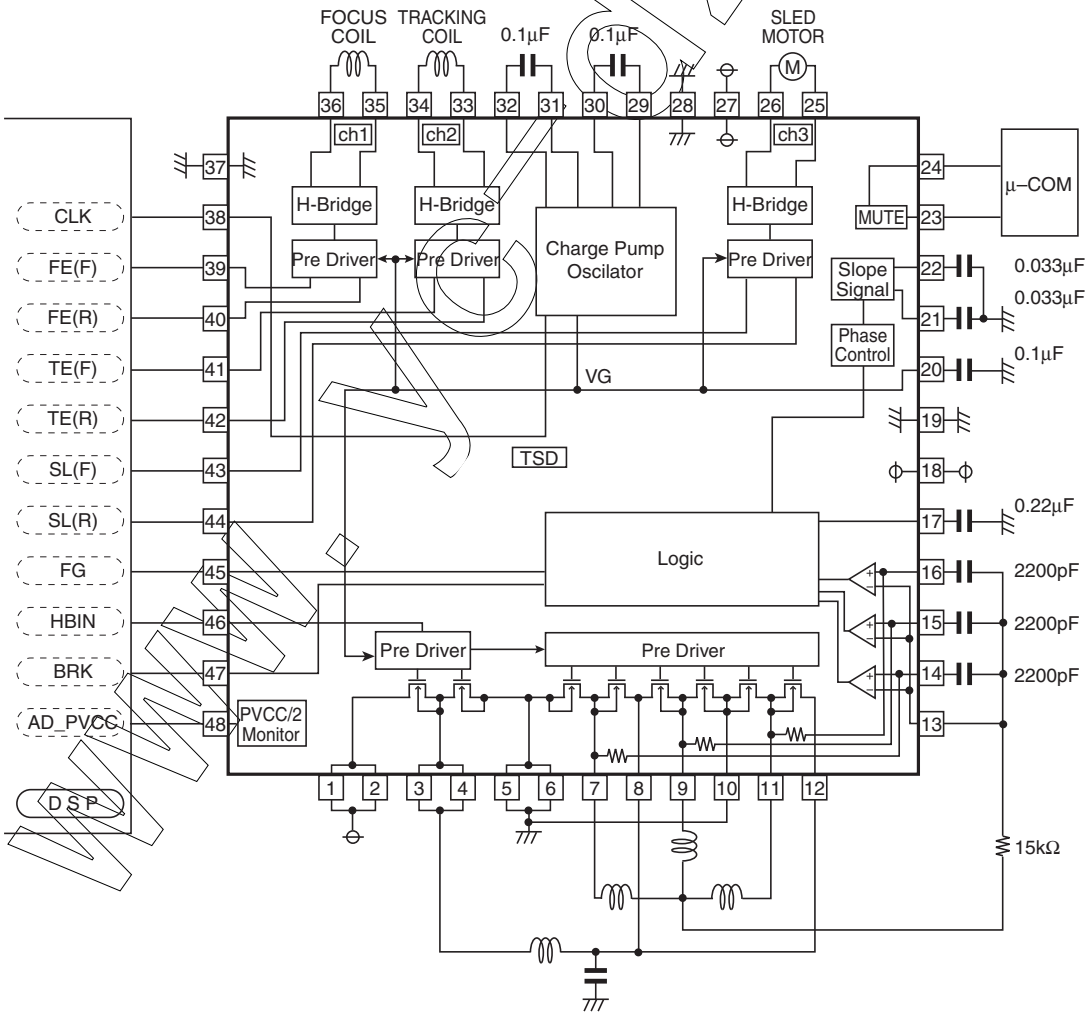
●Recommended Operating Conditions (Ta=25˚C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Control circuit supply voltage	VCC	2.2	2.4	4.5	V
Power block supply voltage	PVCC	0.8	1.5	4.5	V
Pre-driver supply voltage	VG (19pin)	—	7.2	8.5	V

● Electrical characteristics (Unless otherwise noted; Ta=25˚C, Vcc=2.4V, PVCC=2.4V, RL=8Ω+47μH(H bridge), RL=2Ω+47μH(spindle)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Current at no signal (VCC)	ICC2	–	2	4	mA	All channels no input
Current at operating	ICC2	–	5	9	mA	All channels operating
<H bridge driver (ch1,2,3)>						
Output ON resistance	HBRON	–	1.5	2.5	Ω	Sum of ON resistance (upper+lower)
<Spindle driver>						
Output ON resistance	SPRON	–	1	2	Ω	Sum of ON resistance (upper+lower)
Detection comparator input	VCD	0	–	Vcc–1.0V	V	
CST charging current	ICTSO	–4.1	–2.5	–0.9	μA	
CSL discharging current	ICTSI	1.4	3.5	5.7	mA	
CST charging current	ICLSO	–7.8	–5	–2.4	μA	
CSL discharging current	ICLSI	3.5	7.5	11.6	μA	
<Charge-pump>						
Output voltage at no input	VG	6	7.2	8	V	
<Half-bridge driver>						
Output ON resistance	IBRON	–	0.6	1.2	Ω	Sum of ON resistance (upper+lower)
<PVCC/2 monitor pin>						
Monitor pin voltage1	VMON1	1.1	1.2	1.3	V	

● Application Circuit



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