

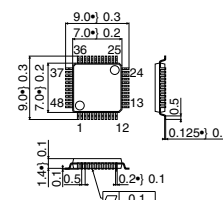
Power controller+4-channel PWM driver for portable CD

BH6570KV

●Description

BH6570KV incorporates 4-channel DC/DC converter, 1-channel series regulator and 4-channel PWM drivers on a single chip for a portable CD. Four lines for external power supply are able to drive efficiently and to reduce power consumption in the set. In addition, due to the small VQFP48C package, the size of the set can be reduced.

●Dimension (Units : mm)



VQFP48C

●Features

- 1) Low power consumption
- 2) Low ON resistance
- 3) VQFP48C package

<Power control>

- Step-up DC/DC converter for micro controller
- Main step-up/step-down DC/DC converter
- Sub step-up DC/DC converter
- VG step-up circuit for power MOS driving
- Built-in ripple filter
- Built-in series regulator circuit

<Driver>

- Built-in 4-channel H bridge driver using power MOS
- Digital input available
- Direct PWM driving

●Applications

Portable CD

●Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Bat t er y suppl y vol t age	PVcc1	7	V
Syst em suppl y vol t age	SVCC	7	V
AC adapt er vol t age	PVcc2	7	V
Power di ssi pat i on	Pd	1180	mW
Oper at i ng t emper at ur e range	Topr	-30 ~ +85	°C
St or age t emper at ur e range	Tstg	-55 ~ +150	°C

Derating : 9.5mW/°C for operation above Ta=25°C PCB (70mmx70mm, t=1.6mm) glass epoxy mounting.

●Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
	PVcc1	1.5	2.4	4.5	V
Syst em suppl y vol t age	SVcc	2.0	2.5	4.5	V
AC adapt er suppl y vol t age	PVcc2	2.0	4.5	6.5	V
Ambi ent t emper at ur e	Ta	-10	25	70	°C

● Electrical characteristics (Unless otherwise noted; PVcc1=2.4V, SVcc=VMC=2.5V, VSUB=3.1V, VG=6V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
<Whole circuit>						
PVCC1 current consumption	IPVCC1	—	1.8	2.7	mA	
<H bridge driver>						
Output ON resistance	RON	—	1.8	2.8		Sum of ON resistance (top+bottom)
<Power>						
SVCC pin threshold voltage 1	SVCCTH1	2.43	2.50	2.57	V	VCNT=0V
SVCC pin threshold voltage 2	SVCCTH2	2.9	3.1	3.3	V	VCNT=2.5V
<Power supply for micro controller>						
VMC pin threshold voltage	VVMCTH	2.4	2.6	2.8	V	LMC=2.3V, VMC=2.3 3V sweep
<Starter circuit>						
VG pin threshold voltage	VVGTH	5.1	6	6.9	V	VLG=5V, VG=5 7V sweep
<Ripple filter>						
Voltage between AVCC-VSUB	VRF	170	205	240	mV	IAVCC=5mA
<Regulator circuit>						
Regulator output voltage 1	VREG1	3.6	3.9	4.2	V	PVcc1=OPEN, PVcc2=6V, VCNT=2.5V
Regulator output voltage 2	VREG2	2.7	2.9	3.1	V	PVcc1=OPEN, PVcc2=6V, VCNT=0V

● Application Circuit

