

# Voltage controller for CD-ROM

## BH6552FV

BH6552FV is a voltage controller developed for CD-ROM. This IC incorporates 3.3V output DC/DC converter and reset circuit into a single chip.

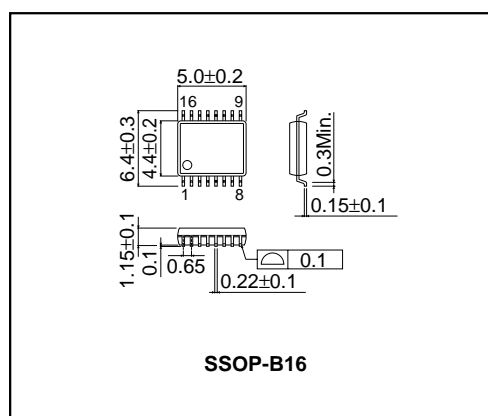
### ●Features

- < 3.3V DC / DC converter >
- Intended for low drain current by adopting sync rectification type.
- Power MOS Tr is contained.
- 3.3V DC/DC converter reduces variation through laser trimming ( $3.3V \pm 2\%$ ).
- Built-in mute function.
- < Reset circuit >
- Source voltage Reset reduces variation through laser trimming ( $3.7V \pm 2\%$ ).

### ●Applications

CD, DVD

### ●External dimensions (Units : mm)



### ●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power MOS supply voltage	PowVcc	9	V
Control circuit power supply voltage	PreVcc	9	V
Pre driver power supply voltage	VG(9pin)	12	V
DSW output current	Iomax	1 *1	A
Power dissipation	Pd	560 *2	mW
Operating temperature range	Topr	-30~+85	°C
Storage temperature range	Tstg	-55~+150	°C

\*1 Switching current of maximum time 5msec and duty is below 1/10.

\*2 On less than 3%(percentage occupied by copper foil), 70mm×70mm, t=1.6mm, glass epoxy mounting.Reduce power by 4.5mW for each degree above 25°C.

### ●Recommended operating conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power MOS supply voltage	PowVcc	4.5	5.0	5.5	V
Control circuit power supply voltage	PreVcc	4.5	5.0	5.5	V
Pre driver power supply voltage *	VG(9pin)	8.0	10.0	11.5	V
Atmosphere temperature range	Ta	-10	25	70	°C

\* In case of being supplied external voltage source.

## Optical Discs

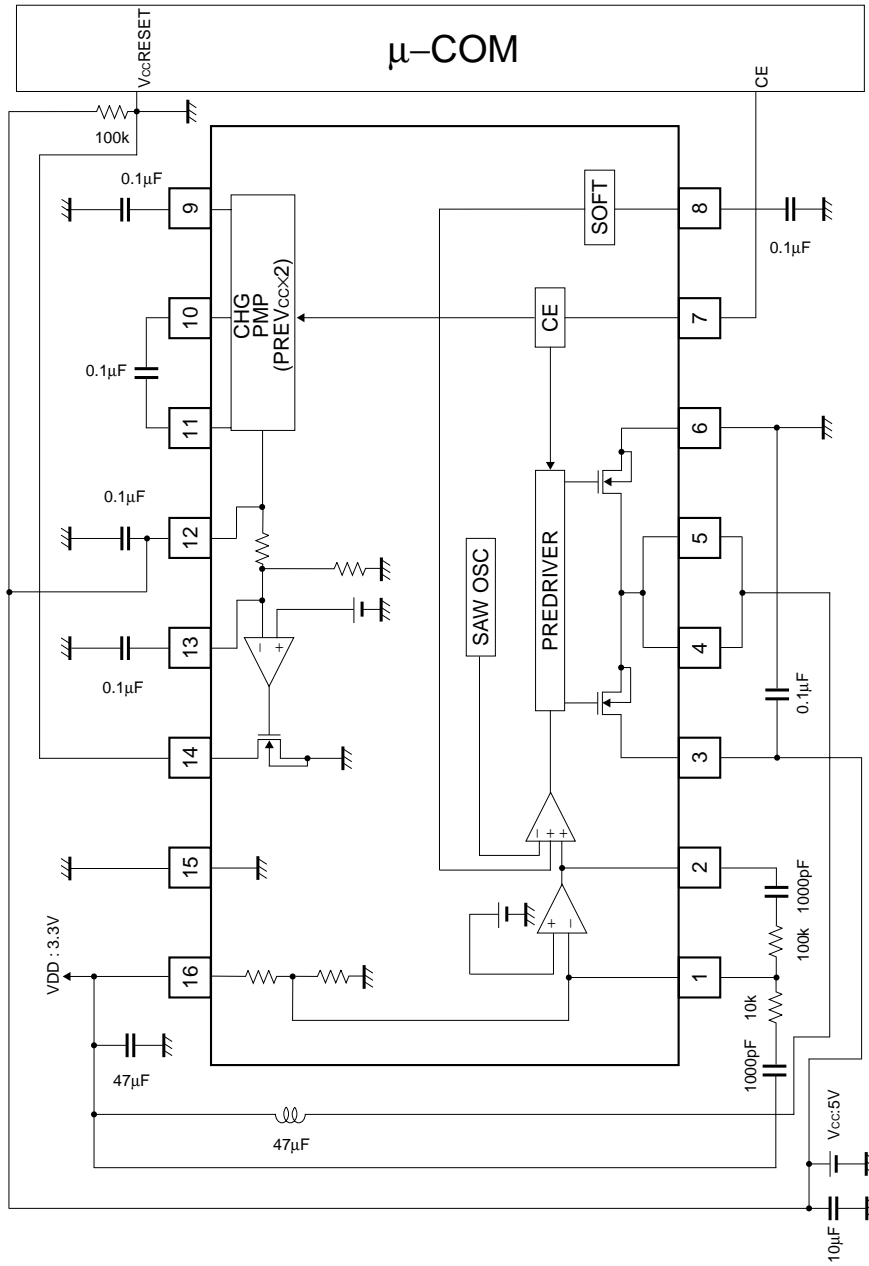
## ●Electric characteristics (Unless specified particularly Ta=25°C, PREVcc=5V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Current in stanby mode	I <sub>ST</sub>	–	170	290	μA	CE=0V
Quiescent current	I <sub>CC</sub>	–	1.45	2.60	mA	
VG quiescent current	I <sub>CG</sub>	–	80	160	μA	
< 3.3V DC/DC converter >						
EI terminal threshold voltage	V <sub>EITH</sub>	1.19	1.25	1.31	V	
SOFT terminal output voltage	V <sub>SOFT</sub>	1.70	2.40	3.10	V	
SOFT terminal source current	I <sub>SOFT</sub>	6.5	9.5	12.5	μA	
SOFT terminal impedance	R <sub>SOFT</sub>	192	253	314	kΩ	
DSW terminal ON resistor H	R <sub>DSWONH</sub>	–	0.42	0.87	Ω	I <sub>L</sub> =500mA
DSW terminal ON resistor L	R <sub>DSWONL</sub>	–	0.30	0.60	Ω	I <sub>L</sub> =-500mA
DSW terminal oscillation frequency	f <sub>DSW</sub>	210	310	410	kHz	
DSW terminal minimum pulse width	t <sub>DSWMIN</sub>	0.01	–	0.50	μ sec	
VDD terminal threshold voltage	V <sub>DCCO</sub>	3.24	3.30	3.36	V	
< Charge pump >						
Output voltage	V <sub>G</sub>	7.7	9.7	11.7	V	In action
VG drop mute	V <sub>GM</sub>	5.0	6.0	7.0	V	
free-running oscillation frequency	f <sub>OSC</sub>	210	310	410	kHz	
Reset monitor circuit						
V <sub>CC</sub> reset ON voltage	V <sub>RSTON</sub>	3.63	3.70	3.77	V	
V <sub>CC</sub> reset hysteresis width	V <sub>RSTHYS</sub>	30.0	60.0	90.0	mV	
V <sub>CC</sub> reset output voltage	V <sub>RSTO</sub>	–	0.16	0.32	V	I <sub>L</sub> =1mA,PREV <sub>CC</sub> =3.5V

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

Optical Discs

● Application circuit



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