

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.

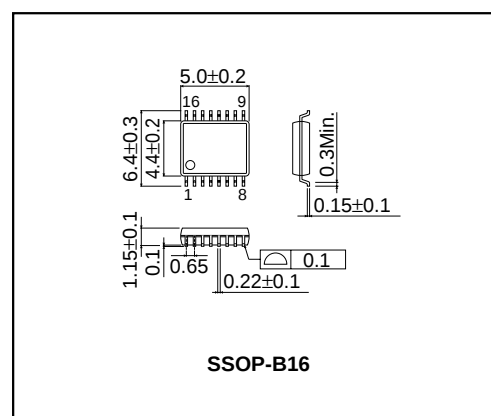
●Features

- < 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	PowV _{CC}	9	V
Control circuit power supply voltage	PreV _{CC}	9	V
Pre driver power supply voltage	VG(9pin)	12	V
DSW output current	I _{omax}	1 *1	A
Power dissipation	P _d	560 *2	mW
Operating temperature range	T _{opr}	-30~+85	°C
Storage temperature range	T _{stg}	-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	PowV _{CC}	4.5	5.0	5.5	V
Control circuit power supply voltage	PreV _{CC}	4.5	5.0	5.5	V
Pre driver power supply voltage *	VG(9pin)	8.0	10.0	11.5	V
Atmosphere temperature range	T _a	-10	25	70	°C

* In case of being supplied external voltage source.

Optical Discs

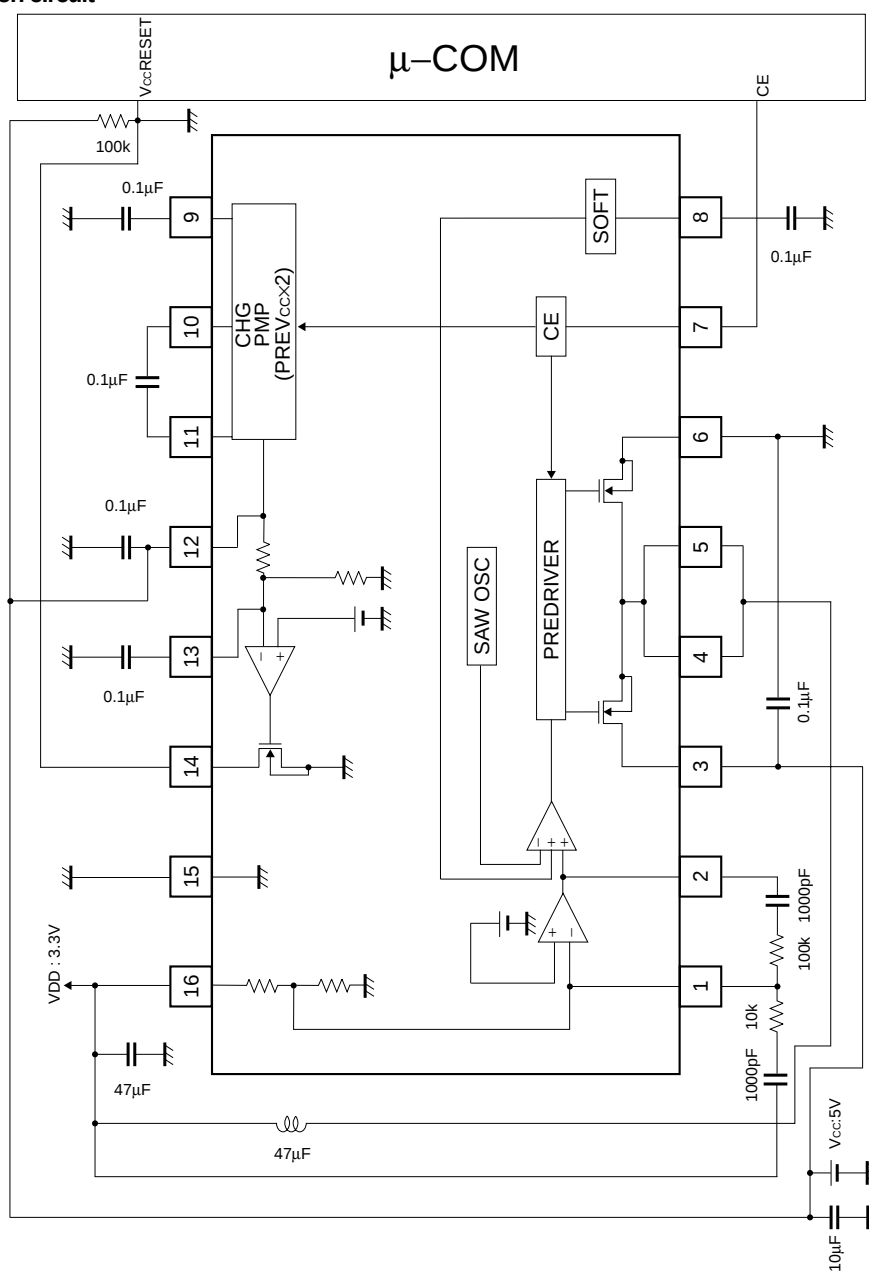
●Electric characteristics (Unless specified particularly Ta=25°C, PREVcc=5V)

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

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

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● Application circuit



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