

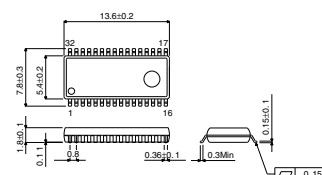
4-channel PWM driver for CD, MD player

BH6519FS

● Description

The BH6519FS is a 4-channel PWM driver developed for both motor and actuator driving functions in CD and MD players. The device requires lower power consumption due to the adoption of power MOSFET in the output.

● Dimension (Units : mm)



SSOP-A32

● Features

- 1) Built-in 4ch power MOSFET H bridge
- 2) PWM input
- 3) Built-in charge pump circuit for VG step-up
- 4) ON resistance 1.2Ω(Typ.)
- 5) Built-in thermal shut down circuit
- 6) Low power consumption
- 7) Small SSOP-A32 package

● Applications

CD, MD players

● Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
H bridge supply voltage	VM	9	V
Control circuit supply voltage	VDD	9	V
Pre-driver supply voltage	VG (2pin)	12	V
Driver output current	Io	1000	mA
Power dissipation	Pd	850 *	mW
Operating temperature range	Topr	-40 ~ +85	°C
Storage temperature range	Tstg	-55 ~ +150	°C

*Derating : 6.8mW/°C for operation above Ta=25°C
70mmx70mm, t=1.6mm, glass epoxy mounting.

● Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
H bridge supply voltage	VM *	1.6	5.0	5.5	V
Control circuit supply voltage	VDD	2.7	3.0	5.5	V
Pre-driver supply voltage	VG(2pin)	VM+3.0	10	11.5	V
Pulse input frequency	fIN	-	176.4	200	kHz

*When the built-in charge pump is not used. When it is used : 2.7V~5.5V

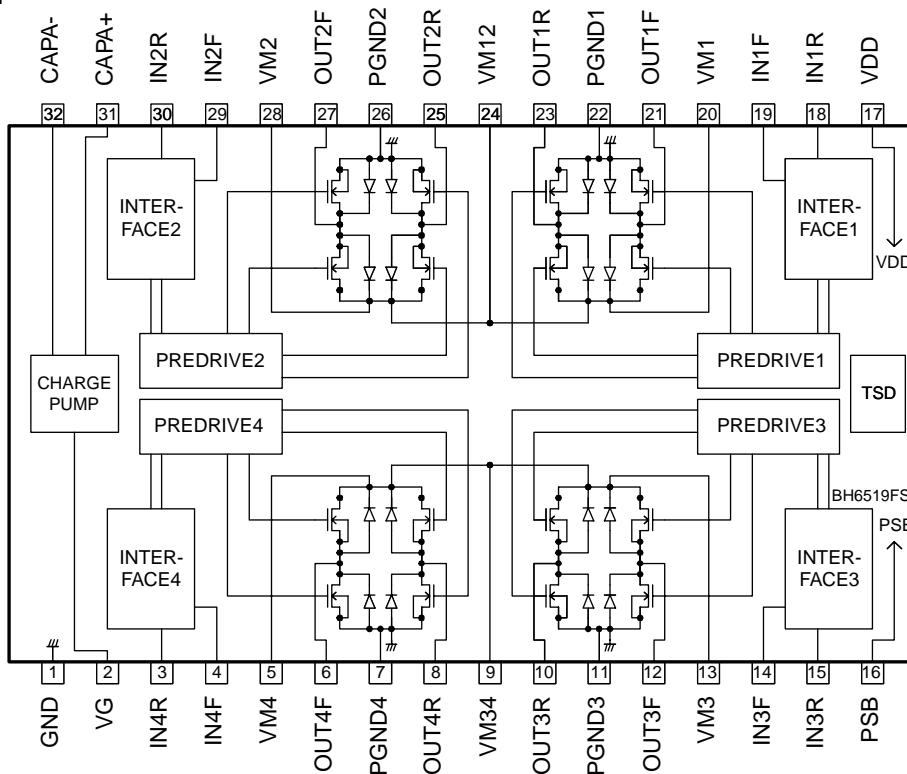
● Electrical characteristics

(Unless otherwise noted; $T_a=25^\circ\text{C}$, $V_M=5\text{V}$, $V_{DD}=3\text{V}$, $V_G=\text{Built-in step-up output}$, $f_{IN}=176\text{kHz}$, $R_L=8\Omega-47\mu\text{H}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
H bridge supply current						
No input	IMST	—	410	580	μA	$V_{DD}=3\text{V}$, $V_M=5\text{V}$
Control circuit supply current						
No input	IDD1	—	100	210	μA	
Operating	IDD2	—	110	220	μA	IDD1+4CH simultaneous drive
PSB	IDD3	—	—	1	μA	
Pre drive supply voltage (Charge pump output)						
No input	VGST	8.8	9.95	12	V	
Operating	VGA	7.9	8.5	11	V	4CH simultaneous drive
Logic input characteristic						
'H' level input voltage	V_{IH}	$V_{DD}-0.6$	—	—	V	
'L' level input voltage	V_{IL}	—	—	0.6	V	
'H' level input current	I_{IH}	—	—	1	μA	
'L' level input current	I_{IL}	-1	—	—	μA	
Output ON resistance	R_{ON}	—	1.2	2.0	Ω	ON resistance (Top+bottom) $V_M=2.5\text{V}$, $V_{DD}=3\text{V}$, $V_G=10\text{V}$ (V_G is supplied outside.)
Output propagation delay time	tRISE	—	0.2	1	μsec	
	tFALL	—	0.2	1	μsec	
Minimum output pulse width	tMIN	150	—	—	nsec	Output pulse width: More than 2/3tMIN
Oscillation frequency	fosc	150	370	520	kHz	31PIN waveform monitor

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

● Block Diagram



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