

Reversible motor driver

BA6109

The BA6109 is a monolithic IC used for driving reversible motors. Two control logic inputs allow three output modes : forward, reverse, and stop.

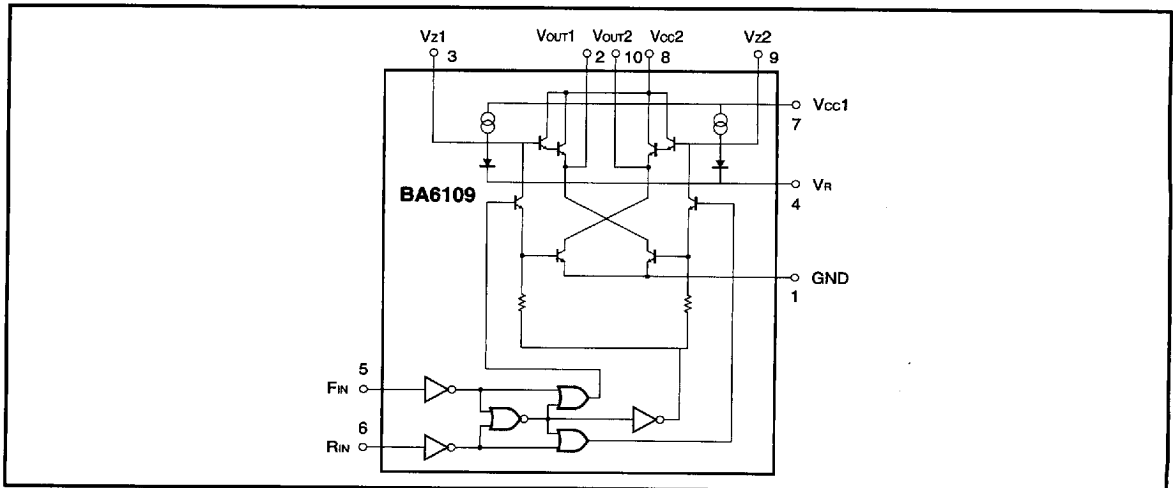
When switching from the forward or reverse mode to the stop mode, a brake is applied by absorbing the counter-electromotive force of the motor. The IC has a built-in function to absorb motor rush currents that occur when switching the output mode.

Output voltage is determined by the external constant voltage diode connected between pin 4 and GND. The motor drive transistor can tolerate a rush current of up to 800mA. The IC can drive motors with various operating voltages. Because the IC operates with a current less than 50 μ A, you can directly connect the IC with CMOSs or other control logic outputs.

●Features

- 1) Motor driving power transistors are built in; a rush current up to 800mA is allowable.
- 2) Brake is applied when stopping the motor.
- 3) Built-in function to absorb motor rush currents.
- 4) Interfaces with MOS LSI devices.
- 5) Small number of external parts.
- 6) Wide range of operating supply voltage (6 ~ 18V).
- 7) Available in a 10-pin SIP package.

●Block diagram



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● Measurement circuit

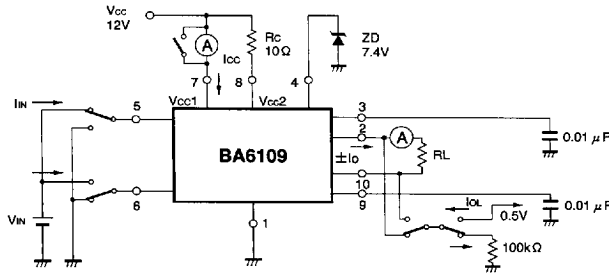


Fig.1

● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power supply voltage	V _{CC}	18	V
Power dissipation	P _d	2200*1	mW
Operating temperature	T _{opr}	-25~75	°C
Storage temperature	T _{stg}	-55~125	°C
Output current	I _{OUT}	800*2	mA
Input voltage	V _{IN}	-0.3~V _{CC}	V

FIN	RIN	Vout1	Vout2
1	1	L	L
0	1	L	H
1	0	H	L
0	0	L	L

*1 Refer to the power damping characteristics for details.

*2 500 μs pulse with a duty ratio of 1%.

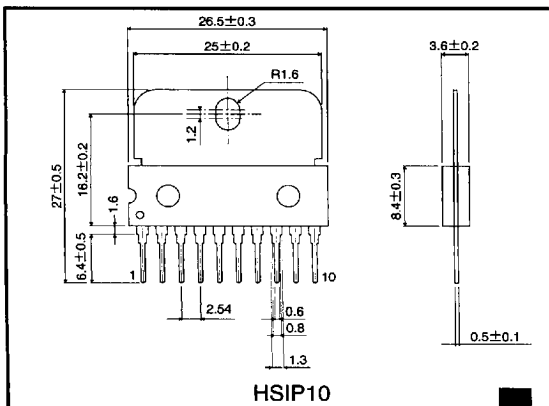
Input level 1 is 2.0 V or more

Input level 2 is 0.7 V or less

● Electrical characteristics (unless otherwise noted, Ta=25°C and V_{CC1}=12V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	Measurement Circuit
Operating supply voltage 1	V _{CC1}	6.0	—	18.0	V	—	Fig.1
Operating supply voltage 2	V _{CC2}	—	—	18.0	V	—	Fig.1
Quiescent current	I _Q	—	15.0	30.0	mA	5, 6pin : GND, R _L =∞	Fig.1
Minimum input ON current	I _{IN}	—	10.0	50.0	μA	R _L =∞	Fig.1
Input threshold voltage	V _{INT}	0.7	—	2.0	V	R _L =∞	Fig.1
Output leakage current	I _{OL}	—	—	1.0	mA	5, 6pin : GND, R _L =∞	Fig.1
Output voltage	V _O	5.2	5.8	6.9	V	R _L =60Ω, ZD=7.4V	Fig.1

● External dimensions (Units: mm)



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