

2-phase half-wave motor predriver

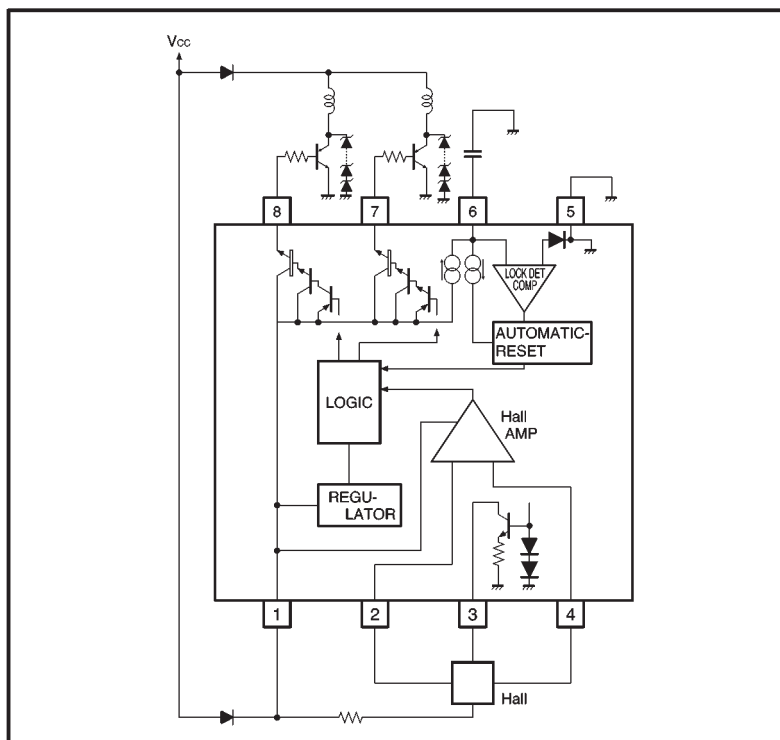
BA6404F

The BA6404F is a 2-phase, half-wave motor predriver suited for fan motors.

●Features

- 1) Lock detection and rotational speed sensing mechanisms are built in.
- 2) Hall constant current source is built in.
- 3) Compact 8-pin SOP package reduces the number of external components required.
- 4) Automatic restart when the motor lock is undone.

●Block diagram and application example



●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Applied voltage	V _{CC}	30	V
Power dissipation	P _d	450*	mW
Operating temperature	T _{opr}	−20~+80	°C
Storage temperature	T _{stg}	−55~+125	°C
Output current	I _{OMax}	70	mA

* Reduced by 4.5 mW for each increase in Ta of 1°C over 25 °C.

●Operating power supply voltage range (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Applied voltage	V _{CC}	4	—	28	V	Operate within the allowable power dissipation for -20 °C < Ta < 80 °C
Input voltage *	V _{BH}	0.8	—	V _{CC} −0.2	V	—

* Input voltage range includes the amplitude of signal.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Supply current	I _{CC}	—	3.2	5.0	mA	When output is OFF
Hall amplifier input hysteresis (+)	V _{hys} ⁺	3	—	15	mV	Pin2 voltage with respect to pin4 voltage, V _B = 6 V
Hall amplifier input hysteresis (−)	V _{hys} [−]	−3	—	−15	mV	Pin2 voltage with respect to pin4 voltage, V _B = 6 V
Pin3 constant current	I ₃	5	6.8	10	mA	V3pin=V _{CC}
Pin6 charge current	I _{6c}	4.0	7.7	12	μA	V6pin=1.5V
Pin6 discharge current	I _{6d}	0.8	1.45	2.3	μA	V6pin=1.5V
Pin6 charge/discharge ratio	r _{cd}	3	5.2	8	—	I _{6c} / I _{6d}
Pin6 clamp voltage	V _{6CL}	2.2	2.6	3.0	V	—
Pin6 comparator voltage	V _{6CP}	0.4	0.6	0.8	V	—
Pin7 Output high level voltage	V _{7H}	10	10.5	—	V	I _o =10mA
Pin8 Output high level voltage	V _{8H}	10	10.5	—	V	I _o =10mA

●External dimensions (Units: mm)

