

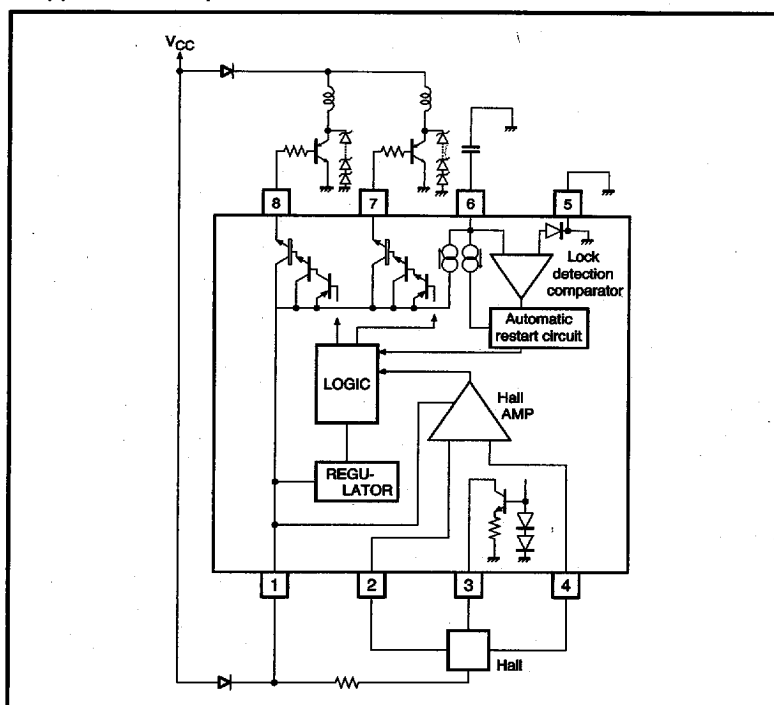
2-phase half-wave motor predriver BA6404F

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



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● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
		BA6404F	
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

* Reduce power by 4.5 mW for each degree above 25 °C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Circuit current	I _{CC}	—	3.2	5.0	mA	When output is OFF
Hall amplifier input hysteresis (+)	V _{hys} ⁺	3	—	15	mV	Pin-2 voltage with respect to pin-4 voltage, V _B = 6 V
Hall amplifier input hysteresis (-)	V _{hys} ⁻	-3	—	-15	mV	Pin-2 voltage with respect to pin-4 voltage, V _B = 6 V
Pin-3 constant current	I ₃	5	6.8	10	mA	V _{3pin} =V _{CC}
Pin-6 charge current	I _{6c}	4.0	7.7	12	μA	V _{6pin} =1.5V
Pin-6 discharge current	I _{6d}	0.8	1.45	2.3	μA	V _{6pin} =1.5V
Pin-6 charge/discharge ratio	r _{6d}	3	5.2	8	—	I _{6c} / I _{6d}
Pin-6 clamp voltage	V _{6CL}	2.2	2.6	3.0	V	
Pin-6 comparator voltage	V _{6CP}	0.4	0.6	0.8	V	
Pin-7 HIGH level output voltage	V _{7H}	10	10.5	—	V	I _o =10mA
Pin-8 HIGH level output voltage	V _{8H}	10	10.5	—	V	I _o =10mA

● Operating supply voltage (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	

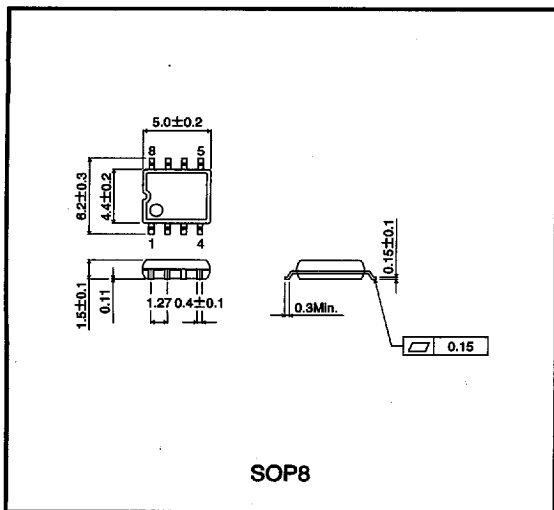
* Input voltage range includes the amplitude of signal.

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● External dimensions (Units: mm)



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