3-phase full-wave fan motor driver IC

BA6425FS

●Description

BA6425FS is a 3-phase full-wave fan motor driver IC. Noise generated by the motor can be reduced by linear driving system. Forward/reverse rotation can be switched. This IC has current limit circuit and FG output.

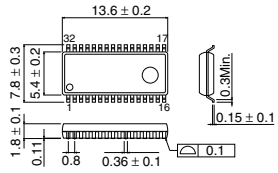
●Features

1) Linear driving system
2) Forward/reverse select switch
3) Built-in current limiter and thermal shut down
4) FG output

●Applications

3-phase full-wave fan motor

●Dimension (Units : mm)



SSOP-A32

● Absolute Maximum Ratings (Ta=25˚C)

Parameter	Symbol	Limits	Unit
Maximum supply voltage	Vcc	18	V
Maximum supply voltage	VM	18	V
Power dissipation	Pd	0.95 *1	W
Operating temperature range	Topr	–30 ~ +75	˚C
Storage temperature range	Tstg	–55 ~ +150	˚C
Output current	Iomax	1000 *2	mA
Junction temperature	Tjmax	150	˚C

*1 Derating : 7.6mW/˚C for operation above Ta=25˚C. PCB (70mmx70mm, t=1.6mm) glass epoxy mounting.

*2 However, do not exceed Pd, and ASO.

● Recommended Operating Conditions (Ta=25˚C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating supply voltage range	V_{CC}	5	—	17	V
Operating supply voltage range	VM	3.5	—	17 *3	V
Hall Amp in-phase voltage range	VCH	1.1	—	V_{CC}–1.0	V

*If VM voltage is low, this IC may not be able to flow the output current by absolute maximum ratings.

● Electrical characteristics (Unless otherwise noted: Ta=25˚C, V_{CC}=V_M=12V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
V_{CC} circuit current	I_{CC}	—	3.7	6.0	mA	Output : Open, Input : HLH
VM circuit current	IM	—	76	120	μA	Output : Open, Input : HLH
Output saturation voltage H	VOH	0.8	1.21	1.6	V	I_O=350mA
Output saturation voltage L	VOL	0.35	0.55	0.75	V	I_O=350mA RNF=0.5Ω
Hall bias current H1	IBH1	–4.0	—	2.0	μA	
Hall bias current H2, H3	IBH2	—	—	2.0	μA	
Input-converted offset voltage	ISD	–10	—	10	mV	
Current limit voltage	VCL	0.38	0.5	0.62	V	RNF=0.5Ω
FR bias current	IFRL	–2.0	—	0	μA	
Forward input voltage range	VFRH	7.5	—	V_{CC}	V	
Reverse input voltage range	VFRL	0	—	4.5	V	
FG output L voltage	VFGL	—	—	0.2	V	I_O=2mA
FG hysteresis width	VHYS	±8	±18	±28	mV	

● Application Circuit