



New Product Announcement

AH5772 & AH5773 U-DFN2020-6 Update

AH5772 and AH5773 - High Performance Single Phase BLDC All-In-One Fan and Motor Driver Family

The simple AH5772 and fully featured AH5773, are highly integrated high performance single chip fan driver solutions with an average continuous current capability of up to 500mA.

Designed for driving single-coil brushless direct current (BLDC) fans and motors, the integrated full-bridge driver output stage uses soft switching to minimize audible switching noise and electromagnetic interference (EMI) providing a low noise solution.

For system flexibility, the AH5773 provides a PWM pin for external PWM signal speed control and standby mode in addition to speed control by adjusting the supply voltage.

In the motor industry, protection is critical. To help protect the motor coil, the both devices provides a rotor lock protection, over voltage protection and thermal shutdown. The open-drain Frequency Generator (FG) pin in AH5773 allows an external interface to monitor motor rotation or speed.

The AH5772 is available in TO94 while AH5773 is available in thermally capable U-DFN2020-6 and MSOP8-EP packages.



The Diodes Advantage

AH5772/3 provides a highly integrated high performance yet simple solutions for a wide range of cooling fans and motor drive applications.

- **High sensitivity Hall sensor with low temperature and voltage coefficients**
 - Highly stable solutions and works with cheaper lower strength magnets
- **Built-in Hall sensor, amplifier, voltage reference and H-Bridge switches**
 - Highly integrated solution significantly reduces external components, PCB area and placement cost
 - Low $R_{DS(ON)}$ H-Bridge switches is capable of 1A peak currents
- **Speed control by DC voltage or PWM input signal**
 - Flexible speed control by an external PWM signal (AH5773) or by adjusting the supply voltage (AH5772 and AH5773)
- **Lock detect, shutdown and automatic restart with FG option**
 - Helps protects coil from over-heating or burning during rotor lock.
 - AH5773 provides FG pin to monitor motor rotation and speed
- **Over Voltage Protection and Thermal shutdown**
 - Helps to protect coil and the device - Safe, reliable and robust operation
- **Operating temperature range -40°C to 105°C**
 - Suitable for thermally demanding enclosed cooling fan applications.

Applications

- 12V BLDC cooling fans, motors, extractors and pumps
- Notebook and desktop PCs cooling fans and blowers
- Instrumentation and equipment power supply cooling fans



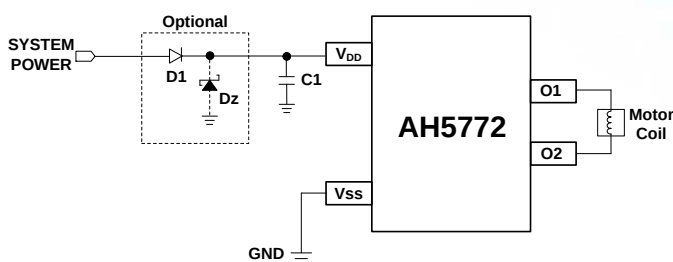
New Product Announcement

AH5772 & AH5773 U-DFN2020-6 Update

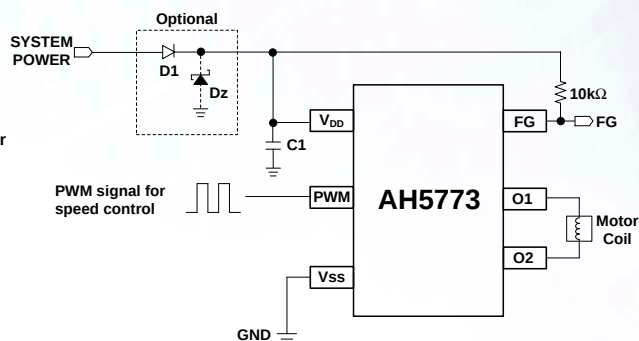
AH5772 and AH5773 - High Performance Single Phase BLDC All-In-One Fan and Motor Driver Family

Typical Application Circuit

AH5772



AH5773



Electrical Characteristics

Part	Operating Voltage	Supply Current (No Load)	Avg. Output Drive Current	Peak Motor Current	Operating Point Bop			Release Point Brp			Soft-Switch	Speed Control	Lock Detect, Shutdown and Auto-Restart	FG / RD	Standby	Temp Range	Package
					(V)	(mA)	(mA)	(mA)	Min	Typ						Max	
AH5772	2.4 to 18	3	450	1000	5	20	35	-35	-20	-5	Yes	VDD	Yes	--	--	-40 to +105	TO94
AH5773	2.4 to 18	3	500	1000	5	20	35	-35	-20	-5	Yes	PWM, VDD	Yes	FG	Yes	-40 to +105	MSOP8-EP U-DFN2020-6

Ordering Information

Device	Packaging (Note 1 and 2)	Reel size or Bulk	Tape width	Quantity
AH5772-P-B	TO94	Bulk		1K
AH5773-MP-13	MSOP8-EP	13"	8mm	2.5K
AH5773-FDC-7	U-DFN2020-6	7"	8mm	3k

- Notes: 1. AH5772 and AH5773 are in "Green" and with Lead Free Finish/RoHS Compliant packages.
EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. No purposely added lead. Halogen and Antimony free.
Please visit our website at http://www.diodes.com/products/lead_free.html
2. Pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>



New Product Announcement

AH5772 & AH5773 U-DFN2020-6 Update

AH5772 and AH5773 - High Performance Single Phase BLDC All-In-One Fan and Motor Driver Family

Product Portfolio – Single phase ^(1, 2) BLDC All-In-One fans and motor drive ICs

Part	Operating Voltage	Supply Current (No Load)	Avg. Output Drive Current	Peak Motor Current	Grade	Max Operating Point Bop			Min Release Point Brp			Soft-Switch	Speed Control	Lock Detect, Shutdown and Auto-Restart	FG / RD	Standby	Temp Range	Package
	(V)	(mA)	(mA)	(mA)		(Gauss)			(Gauss)								(°C)	
						Min	Typ	Max	Min	Typ	Max							
AH5794	1.8 to 6.0	2.2	350 500	1000	--	10	25	50	-50	-25	-10	Yes	VDD	Yes	FG	--	-40 to +105	TSOT23-6 U-DFN2020-6
AH5795	1.8 to 6.0	2.2	350 500	1000	--	10	25	50	-50	-25	-10	Yes	PWM, VDD	Yes	FG	Yes	-40 to +105	TSOT23-6 U-DFN2020-6
AH5798	1.8 to 5.5	5	250 300	800	--	10	25	50	-50	-25	-10	Yes	VDD	Yes	FG	--	-40 to +105	TSOT23-5 SOT89-5
AH5771	2.5 to 15	3.5	200	400	--	10	30	50	-50	-30	-10	--	VDD	Yes	--	--	-40 to +100	SIP-4
AH9479	2.5 to 16	4.3	300	500	--	0	20	50	-50	-20	0	Yes	VDD	Yes	--	--	-40 to +85	TO94
AH9480	2.5 to 16	4.3	300	500	--	0	20	50	-50	-20	0	Yes	VDD	Yes	FG	--	-40 to +85	MSOP8-EP
AH9481	2.5 to 16	4.3	300	500	--	0	20	50	-50	-20	0	Yes	VDD	Yes	RD	--	-40 to +85	MSOP8-EP
AH477A	3.5 to18	13.5	250	600	A B	5 --	--	70 100	-70 -100	-- --	-5 --	--	VDD	Yes	--	--	-20 to +85	TO94
AH5772	2.4 to 18	3	450	1000	--	5	20	35	-35	-20	-5	Yes	VDD	Yes	--	--	-40 to +105	TO94
AH5773	2.4 to 18	3	500	1000	--	5	20	35	-35	-20	-5	Yes	PWM, VDD	Yes	FG	Yes	-40 to +105	MSOP8-EP U-DFN2020-6

TS: Thermal Shutdown

OCL: Over Current Limit

OVP: Over Voltage

- (1) For two phase All-In-One BLDC fans and motor drivers please refer to the motor drive portfolio <http://www.diodes.com/products/catalog/browse.php?parent-id=225>
- (2) For single BLDC fans and motor drivers please refer to the motor drive portfolio <http://www.diodes.com/products/catalog/browse.php?parent-id=221>
- (3) For single or two phase BLDC fans and motor control pre-drivers please refer to the motor drive portfolio page on <http://www.diodes.com/products/catalog/browse.php?parent-id=222>
- (4) For three phase BLDC sensorless fans and motor drivers please refer to the motor drive portfolio page on <http://www.diodes.com/products/catalog/browse.php?parent-id=226>

To find out more information:

Motor Control Portfolio page:

Single Phase All-In-One Driver: <http://www.diodes.com/products/catalog/browse.php?parent-id=220>

AH5772 Datasheet: <http://www.diodes.com/datasheets/AH5772.pdf>

AH5773 Datasheet: <http://www.diodes.com/datasheets/AH5773.pdf>